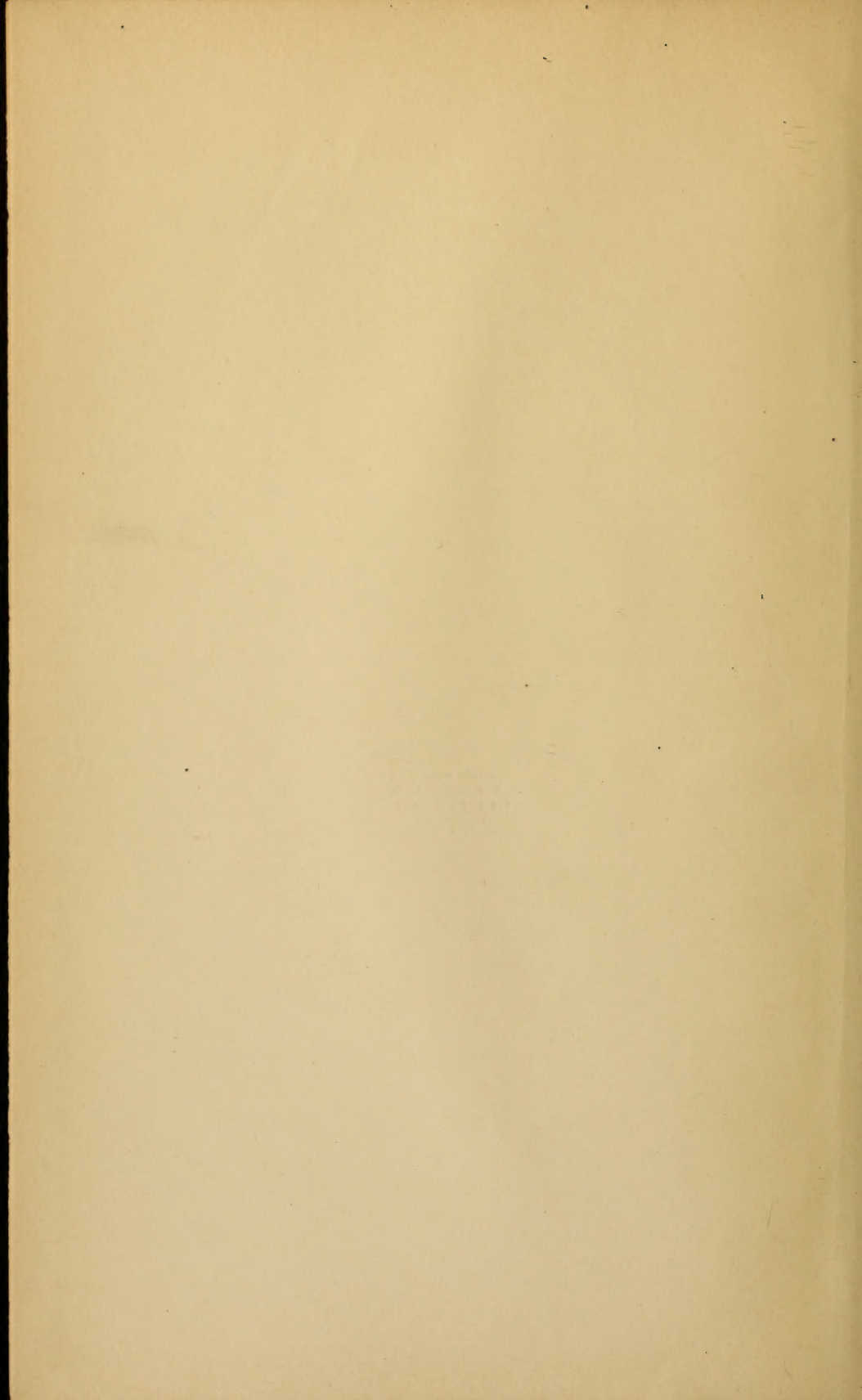


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CLINICAL GYNÆCOLOGY:

BEING

A HAND-BOOK

OF

DISEASES PECULIAR TO WOMEN.

BY

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WITH 259 ILLUSTRATIONS.

PHILADELPHIA:

J. B. LIPPINCOTT COMPANY.

1893.

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PREFACE.

THE following pages contain the results of the writer's experience, extending over a quarter of a century, of diseases peculiar to women, as conveyed to his hospital class or contributed to medical journals. In somewhat tardy compliance with the repeated, and but too kindly expressed, suggestions of former pupils and present *confrères*, these lectures, in a systematic and carefully-revised form, are now published, in the hope that they may possibly also prove acceptable or useful to others as a Hand-book of Gynæcology.

The main object of a course such as this is to impart that clinical knowledge which the lecturer's oftentimes dearly-bought and slowly-acquired experience has shown may facilitate those to whom it is addressed in the recognition and treatment of the diseases referred to. The author therefore trusts he will not be deemed egotistical in saying that, whilst not omitting the fullest reference feasible to the general literature of the subjects discussed, and to the most recent sources of accurate gynæcological information, nevertheless, in his descriptions of women's special ailments and of the remedial methods therein recommended, he has relied chiefly on what he has himself observed at the bedside or carried into effect in such cases.

In so doing he has endeavored to give an impartial account of the various plans of treatment described, bearing in mind the fact, too often lost sight of, that on gynæcological questions, as on other matters, there is probably as much to be learned from the history of our failures as from the record of our successes.

With regard to the illustrations with which this volume is enriched, the writer has to acknowledge his obligations to many contributors. Among these he must especially refer to Dr. A.

Duke, of Cheltenham, formerly gynæcologist to Stevens' Hospital, Dublin, whom he has to thank for numerous original sketches of gynæcological diseases or appliances; and to his colleagues, Dr. Coppinger and Dr. Boyd, of the Mater Misericordiæ Hospital, who, as well as Dr. J. Magee, of Melbourne, Dr. F. Golding, Professor A. Blaney, of the Royal University, and Mr. J. Nally, former residents in the same institution, have favored him with drawings or photographs of cases under clinical observation. In this connection should, moreover, be included the distinguished names of Dr. Robert Barnes, Dr. John Williams, Dr. Fancourt Barnes, Dr. Graily Hewitt, Sir Spencer Wells, Dr. C. Godson, Dr. Heywood Smith, Dr. Herman, and Dr. Macnaughton Jones, of London, Dr. Berry Hart, Dr. A. F. Barbour, and Professor A. R. Simpson, of Edinburgh, Professor Leishman, of Glasgow, Mr. Lawson Tait, of Birmingham, Dr. Kidd and the late Drs. McClintock and Churchill, of Dublin, Drs. T. A. Emmet, Paul F. Mundé, Gaillard Thomas, and the late Dr. Marion Sims, of New York, Dr. William Goodell, of Philadelphia, and Dr. Henry O. Marcy, of Boston, to each of whom, as well as to the publishers of their respective works, he is much indebted for valuable illustrations. Finally, the author has also to thank his son, Dr. R. R. More Madden, for his aid in the correction of proof-sheets of this work.

55 MERRION SQUARE, DUBLIN, 1893.

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CLINICAL GYNÆCOLOGY.

PART I.

DISEASES AND INJURIES OF THE PERINEUM, VULVA, BLADDER, AND VAGINA.

LECTURE I.

INTRODUCTORY OBSERVATIONS.

GENTLEMEN,—No branch of medico-chirurgical science has progressed so rapidly or come into such prominence within the past few years as that which forms the subject of the present course. Whatever your intended line of practice may be, or in whatever part of the world its future field may lie, you will probably find that no small share of your professional troubles will be occasioned by the care of diseases peculiar to women, unless you beforehand provide yourselves, as you may easily do, with some special knowledge of this subject. Nevertheless, to the present day, in no department of medical education is the disproportion between the theoretical requirements of our examining bodies and the actual knowledge needed by the medical practitioner more apparent than in this. For, whilst exaggerated importance is attached by all British and most American licensing corporations to the possession by the student of those various accessory sciences which, in most instances, are laid aside as soon as they have secured his passage through the portals of the profession, no sufficient provision exists, in this country at least, for compulsory attendance on any special separate course of instruction

in gynæcology, on his acquaintance with which so much of every medical man's success in practice must depend.

As long, therefore, as gynæcology is cursorily taught at the fag-end of your obstetric teacher's midwifery course, it seems to me my duty as a clinical teacher to endeavor to fill this void as far as possible by furnishing you with instruction in gynæcology as systematic as the exigencies of a hospital course will permit. And I venture to hope that, if you favor me with regular attendance on these lectures and on the practice of the special wards and dispensary here under my charge, you may be enabled to acquire such an acquaintance with the principal diseases peculiar to women, as will help you to encounter future inevitable responsibilities with advantage to your patients and credit to yourselves.

It may be not unprofitable in this preliminary lecture to say a few words with regard to the importance of clinical study of gynæcology, and the expediency of your devoting more attention to its cultivation than, from my own experience as an examiner and as a teacher, would appear to be generally given, even by the most zealous of our students, to this subject. I may also premise that, since these lectures will be chiefly occupied with diseases and methods of practice which you will here see exemplified and on my account of which you can form your own judgment, I shall not refer as incessantly as some teachers do to those German and French gynæcologists whose authority is elsewhere now so much relied upon. Although ready to adopt every practical improvement in our art of which I am cognizant, from whatever source it may come, I for one cannot admit that, whilst our potentialities of clinical study remain what they are, our school of medicine has so far receded from its former position as to be mainly dependent on the *dicta* of foreign professors whose clinical opportunities are not superior to our own, and from whose theoretical opinions on many questions of practical importance I myself dissent. Should we, however, need, as we all sometimes do, further light to guide our steps in the often dark and difficult paths of gynæcology, it is not to France or Germany but to America that we may best turn for our guidance; inasmuch as modern gynæcology unquestionably owes its present development chiefly to the influence and teaching of the American and British schools of medicine.

Thus, the marvellous achievements of modern intraperitoneal surgery now daily exemplified in both these great divisions of Anglo-Saxon gynæcological practice, and in the latter more especially by the results obtained by Spencer Wells, Lawson Tait, Keith, Bantock, Doran, Thornton, and countless other specialists in the operative treatment of ovarian and uterine diseases formerly considered beyond the possibility of radical remedy, are but the fruition of the skill and courage of an American surgeon. Had we no other reason than this for gratitude to our transatlantic brethren, it should be sufficient for us to recall the memory of that first ovariologist, who, in a remote Kentucky village, alone and under the most unfavorable circumstances, successfully accomplished what the leaders of surgery in the great centres of European science, from Ambrose Paré to Hunter and Lizars, had long previously dreamt of but had not ventured to attempt, and so inscribed the name of EPHRAIM McDOWELL in imperishable characters on the annals of medicine and humanity.

The limits of this lecture will not permit my attempting to refer in detail here to the history of the more recent advances in gynæcological science which owe their origin to either American or British pioneers in this branch of medicine. Suffice it, therefore, to say that from the time of Marion Sims down to that of Emmet, Thomas, Battey, Skene, Goodell, Mundé, Cushing, and so many others of the present day, the former have been prominent in the van of gynæcological progress; whilst the latter, from the epoch marked by the early writings of Simpson to the present moment, have well maintained their place in that noble rivalry in the cause of science and suffering humanity. Nor should it be forgotten that in this as in most other departments of our art the Irish medical profession inherits no mean traditions; the dawn of gynæcological, as well as obstetric, science dating from the establishment of the first special hospital for women, which was founded in this city shortly before the middle of the last century, and which still exists as a lasting monument of the self-sacrificing benevolence and untiring energy of one of our calling, Dr. Bartholomew Mosse. Hence, following as we do here in the immediate track of men such as Evory Kennedy, Montgomery, Beatty, McClintock, Ringland, Kidd, Atthill, and others no less distinguished, whose names are indelibly associated with the advance-

ment of gynæcological science, it behooves us to endeavor to imitate the patient research and accurate clinical observation of which they have set the example. By so doing, even the humblest among us may perhaps also hope to add something to the common stock of knowledge, and so aid in the advancement of our science and the relief of those sufferings to which it is our privilege to minister. And, even if we fail in this, we can thus at least secure the satisfaction of having striven in a noble cause, and acquitted ourselves of that duty which every man owes to his profession.

A short retrospect of some of the many improvements which have of late years been effected in gynæcological practice, to which the labors of our school have contributed, will best prove the importance of this subject. To exemplify the changes which have been effected in this department of medicine within my own recollection, I shall briefly contrast the faulty diagnosis and unsatisfactory treatment of utero-ovarian diseases when I entered on hospital practice with the results at present attainable from the modern science which has happily replaced the crude gynæcological knowledge that prevailed in my earlier days, now, alas, more than "twenty golden years ago." At that time the interior of the living uterus was practically still a sealed book, a veritable *terra incognita australis*, to uterine specialists unprovided with those methods of direct investigation and treatment with the use of which you will be here familiarized, and by the aid of which the youngest practitioner may now readily recognize, and efficiently deal with, many of those gynæcological complaints that then baffled even the most experienced. Nor in the pre-aseptic surgical period to which I refer would it have been possible to foresee the successful results which, as already said, are now daily realized in gynæcological practice, in the treatment of ovarian, uterine, tubal, and other intra-peritoneal morbid conditions. In those days, too, not merely intra-peritoneal diseases, but also interstitial and submucous uterine tumors which are now successfully treated by every gynæcologist, were practically beyond the reach of any surgical interposition. The operative treatment of vesico-vaginal fistula, even in ordinary cases, was commonly a failure, whilst in instances of more extensive disruptions of the vaginal septa, patients curable by

modern plastic operations were then abandoned to lives of hopeless misery. The various displacements and flexions of the uterus were imperfectly differentiated, their importance was ignored, and their treatment was in many instances neglected or erroneous. The physiology and pathology of menstruation having only of late years become understood, the management of its abnormalities was previously largely empirical. The bearing of cervical lacerations on pelvic pathology was then ignored. Finally, many of the morbid conditions of the uterine appendages, and more especially those of the Fallopian tubes,—viz., salpingitis, pyosalpinx, hydrosalpinx, etc.,—to which such importance is attached at the present day, were wholly unknown and untreated a few years ago.

In most of the instances of the recent development of gynæcology just cited you will find exemplification not only of the progress of our art but also of the fact that, in medical as in most other matters, new opinions are generally controverted and new inventions opposed until, if they be deserving of success, the resistless force of truth bears them in safety beyond the storm of prejudice. At one time the use of the speculum was denounced in terms of reproach which now appear ludicrous; at another the employment of the uterine sound was reprobated as a dangerous and useless innovation; in like manner an operation the value of which in certain cases is conceded led to the expulsion of its advocate from the London Obstetrical Society. The various flexions of the uterus, to which so much attention has since been given, were said to exist only in the imagination of those who described them; and yet, within a few years, these, with many other once-reproved practices or opinions, have come to be generally adopted. Nay, so far has the pendulum of professional opinion swung back from one extreme to the other, that each of these theories and methods of treatment has been pushed into undue importance, and, though abuse has thus in some instances succeeded to neglect, the ultimate result has, on the whole, been one of progress.

The prolongation of life and mitigation of suffering which have resulted from this progressive development of recent gynæcology are not only the best incentives to further efforts for its future improvement, but should also suffice to convince even those

who do not purpose to devote themselves to its special practice of the importance of this too commonly neglected branch of general medical education. In the present state of medico-chirurgical science it would be obviously impossible for any one to cultivate equally all its component parts. Hence a division of medicine is necessitated, more especially in all large centres of population, in the interests alike of the profession and of the public, by whom it is justly supposed that physicians who confine themselves to a limited field of practice will probably become more experienced and reliable advisers therein than others can be whose practice extends equally over every branch of medicine, surgery, and obstetrics. Nor, indeed, can they who restrict themselves to gynæcological practice be said, with truth, to be engaged in any narrow specialism. On the contrary, at every turn those thus occupied find abundant evidence of the correlations and inseparable interlacements of uterine and peri-uterine affections with disorders of the general health. This is shown especially in the protean varieties of nervous derangement which, from the most trivial manifestation of hysteria to the gravest forms of cerebro-nervous disturbance, viz., epilepsy and insanity, are so frequently associated with the local diseases that come within the province of the gynæcologist. It is therefore surely obvious that whoever would successfully pursue gynæcology can be no mere specialist, but, as I have before said, should be a well-educated physician, thoroughly conversant with the principles and practice of general medico-chirurgical science.

But, gentlemen, even the most perfect acquaintance with every branch of medical science is not sufficient to constitute what the gynæcologist in the highest and truest sense of that term should be,—*Ex quovis ligno non fit Mercurius*. He who would worthily fill this office should possess an ever-present sense of his own honor and of the dignity and responsibilities of his calling, a disposition attuned to sympathy with suffering humanity, and a mind well stored with the science that ministers to its relief. If you are thus happily constituted, then, indeed, will you as obstetricians be kindly as well as skilful attendants by the bed of agony in which man is born into this world, and as physicians prove faithful protectors from the poisoned arrows of disease during his passage through it, and fit watchers by that last scene of

suffering in which the taper of life is quenched ; but, above all, as gynæcologists will you thus be found trusty counsellors in troubles which to no others are confided, and to your keeping may safely be entrusted, as must often be the case in this branch of practice, not merely the lives of your fellow-creatures, but also their personal honor and domestic welfare.

The importance of that course of clinical study which we are here to pursue, and of which lectures such as these are an integral part, is so great that it would be impossible for you to overestimate its value or devote too much of your time to it. In no point is the paramount necessity of clinical study more obvious than with regard to gynæcology, concerning which the hospital affords the only reliable text-book. But to utilize the open page in which the secrets of disease are thus revealed to those who study its interpretation at the bedside, you not only must possess some elementary acquaintance with the alphabet of the language of pathology, but also must strive to learn the *savoir-faire*, or art of so dealing with the sick as to secure their confidence and elicit whatever information is necessary to elucidate the nature of the case under consideration. To do this a demeanor kindly and sympathetic, but never familiar, is essential, and not difficult to be acquired even by the youngest member of this class who remembers that in the hospital ward we stand in the temple of suffering humanity, and possibly in the immediate presence of death.

Lastly, to insure that trust from your gynæcological patients without which it would generally be hopeless to endeavor to ascertain the nature of their complaints, and impossible to treat them successfully, you will find it advantageous to evince by your manner, which should be firm and decisive in all your professional dealings, a well-founded confidence in the accuracy of your knowledge and the certainty of your treatment. These qualifications it will be my duty here to afford you, as far as my limited abilities go, every facility of acquiring for yourselves. If you avail yourselves of such opportunities, you will, I am convinced, have no reason to repent the time employed in the study of the diseases peculiar to women.

LECTURE II.

METHODS OF ORDINARY GYNÆCOLOGICAL INVESTIGATION.

GENTLEMEN,—In approaching, as you are about to do in the wards of the hospital, that battle with disease of which you are here to be for a brief period spectators, before being called on to engage in the struggle yourselves, it is obviously necessary that you should have at least some preliminary acquaintance with the general plan of tactics to be adopted, and the weapons to be employed in the contest that lies before you. In this lecture, therefore, we must occupy ourselves with the special methods of inquiry, instruments, and appliances commonly used in the investigation of the diseases peculiar to women.

First, then, with regard to the method of inquiry.

You must always bear in mind, in dealing with gynæcological patients, that the majority of women, however voluble they may be, on their first visit to a specialist are naturally more or less nervous, and somewhat vague or reticent concerning the actual complaint for which they seek advice. Hence, in the investigation of such cases you must rely mainly on your own trained powers of observation, aided, when necessary, by direct physical examination. At the same time you should invariably, in the first instance, listen as patiently as possible to every client's version of her troubles, real or fancied, however prolix or inconsequent it may be. Having thus afforded a safety-valve for the relief of the patient's nervousness, and probably also gained some insight into the nature of the case, you may then better succeed in extracting the gist of her complaints by a few well-directed questions. These may be commenced by some inquiry concerning your client's general condition, thus ascertaining whether she be married or not, sterile or fruitful, and, if the latter, the number of her gestations and the period since the last. In these preliminary inquiries, however, as you will soon learn for yourselves, there are points besides the serious one of age on which your prudence will be best evinced by abstaining from any direct

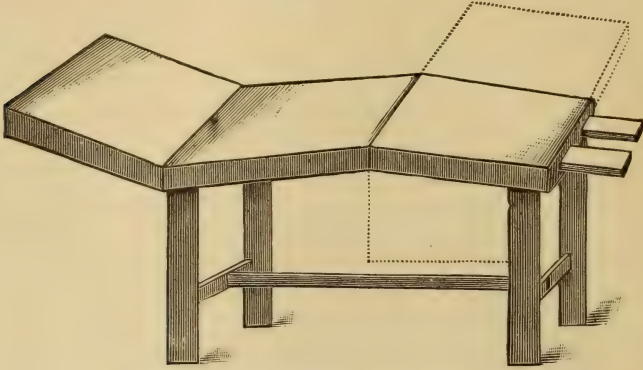
question. But in all cases you may at least ascertain from the patient the state of the catamenial function, the existence of leucorrhœal or other discharges, and the character of any pelvic, peri-uterine, or ovarian pain, discomfort, or trouble, and be enabled to judge whether or not the case be one really requiring direct physical or local gynæcological examination. Assuming that such a necessity is disclosed, we may briefly consider the manner in which this local investigation can be effected.

Uterine Examination.—The physical diagnosis of gynæcological disease is attainable in three ways,—first, by internal or utero-vaginal exploration, in some instances assisted by rectal examination; secondly, by external examination; and thirdly, by the conjoint employment of these, or the bimanual method. In all gynæcological investigations the presence of a trained nurse, or in her default of some other female, should be held indispensable, on every consideration of propriety, convenience, and prudence. *No examination of this kind should ever be resorted to save as a matter of absolute necessity*, but whenever thus required it should with as little delay as possible be thoroughly carried out as a matter of course, without any fussiness on the part of the practitioner, or the causation of any needless exposure or pain to the patient.

Gynæcological Couch or Table.—To make an effectual uterine exploration the patient must first be placed in suitable position, and for this purpose various ingenious forms of gynæcological couches have been devised. Of these it matters little which may be employed, provided only it be high and narrow enough to enable us to conduct the examination without personal discomfort or allowing the patient to move from the required position, as well as sufficiently firm to support the weight of the portliest matron who has developed the *suave incrementum*. My examination-table, which can be made by any handy carpenter, probably answers these ends as well as any other. This is an inclined plane three feet in height, elevated in the centre to three feet six inches and gradually decreasing to three feet four at the foot, by four feet six inches in length, and eighteen inches in width. It terminates in movable foot-rests for dorsal examination, is provided with folding knee-flange, and is supported by pillars containing nests of drawers for the reception of the instruments and

appliances usually required. The table is covered merely by a shawl, in which the patient is to be enveloped by the nurse, who assists her on the couch and adjusts her dress before the examination.

FIG. 1.



Sketch of More-Madden's gynæcological table.

Position for Examination.—In this hospital you will observe that, following the usage of the majority of British practitioners, we prefer the left lateral semi-prone position for ordinary gynæcological examinations, as we regard it as not only more convenient and suitable for that purpose, but also as less repugnant to our countrywomen's innate sense of delicacy than the dorsal decubitus adopted by foreign practitioners. Even here, however, the latter position is employed by some specialists for the introduction of the sound and for digital and bimanual examinations. For my own part, as just observed, I seldom find it necessary, except for operative purposes, at least, to employ any other than the *semi-prone lateral position*, in which the patient is to be placed on her left side with the legs bent on the thighs, and these again flexed on the abdomen. Her left arm should be brought round behind the waist, and the body well rotated downwards and forwards, whilst the hips should then project over the opposite edge of the couch.

Digital Examination.—Of all gynæcological instruments by far the most important and generally useful is the surgeon's hand, and hence its employment in digital examination must be regarded as the primary step in the physical diagnosis of uterine complaints, and should be thus carried out: Having first, before

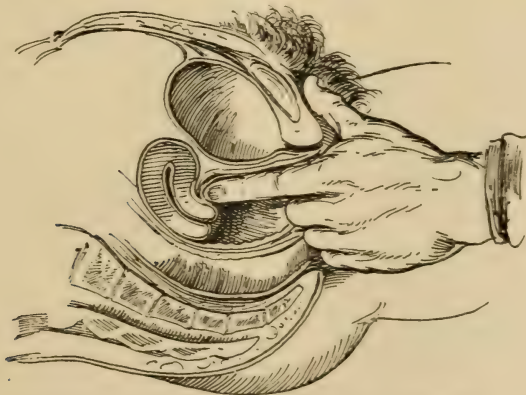
every examination, carefully washed your hands with hot water, nail-brush, and carbolic or thymol soap, and lubricated either the left or the right index with carbolized vaseline, you take your place behind the couch, and, flexing the fingers, pass your hand under the patient's covering; separating the labia and drawing back the posterior commissure, you introduce the index through the vulval entrance and along the posterior wall of the passage until it reaches the vaginal roof, when by turning the finger forward it will be brought in contact with the os uteri. In the course of this examination the following points are to be noted,—viz., the physical state of the cervix and of the passage, its temperature and sensibility, secretions or discharges, patency or resistance at any point, and whether the latter be caused by the hymen or by atresia, or by the presence of any tumor, cicatricial bands or adhesions.

FIG. 2.



Position of hand during examination.

FIG. 3.

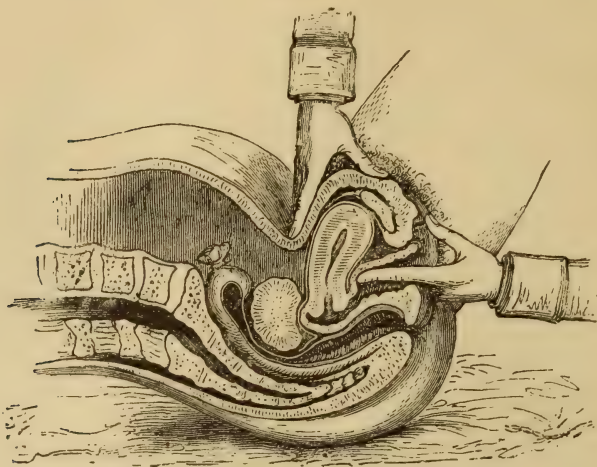


Vaginal examination with left hand, uterus anteverted.

The second step that may be necessary in a gynaecological examination is *conjoint or bimanual investigation*. This can be accomplished in the semi-prone position by applying the right forefinger to the os uteri, whilst placing the left hand edgeways, as in the expression of a retained placenta, over the hypogastrium, so as to grasp and press the fundus, through the abdominal

parietes, down into the pelvic cavity. In this way the size, contour, and position of the uterus can be readily and distinctly ascertained.

FIG. 4.



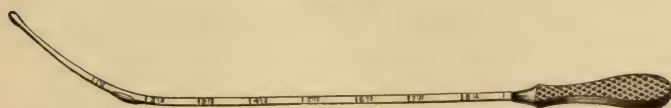
Method of bimanual examination. (After Sims.)

In some instances *rectal exploration* will also be necessary, and more especially so in the diagnosis of pelvic tumors, ovarian and tubal complaints, such as hydrosalpinx and pyosalpinx, sub-peritoneal outgrowths from the posterior uterine wall, ovarian prolapsus, pelvic abscesses, and hæmatocele, as well as for the detection of abnormal conditions of the rectum itself, which not uncommonly are the unsuspected sources of uterine irritation. The manner of carrying out this procedure and the circumstances immediately calling for it will be subsequently described.

Employment of Uterine Sound.—This must be regarded as the third step in the course of a thorough gynæcological investigation. It should, however, be restricted to those cases in which it is indispensably necessary and in which it is not contra-indicated by any special circumstance. Such discredit has been brought on this instrument by its occasional abuse that some authorities have denounced its use as being dangerous as well as valueless for any purpose. My own experience, however, is just opposite to this, and I still regard the sound as no less necessary to the gynæcologist than the stethoscope or the clinical thermometer

is to the physician. By its aid alone can we ascertain the exact size and position of the uterus, or arrive at any certain differential diagnosis of various uterine, ovarian, and other intrapelvic morbid conditions. For these purposes the sound has not as yet been

FIG. 5.



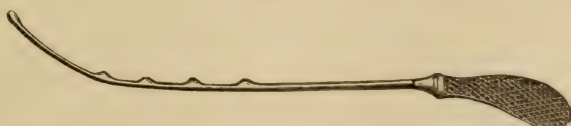
Uterine sound.

replaced by any of the uterine probes or other instruments recently proposed as its substitutes.

The proper use of the uterine sound is to extend our sense of touch to parts beyond digital reach, and hence it should be regarded only as a help to diagnosis, and should not be resorted to as a repositor. Moreover, to employ the sound with safety it must always be borne in mind that no force whatever is justifiable in its use; and secondly, above all, it must be clearly ascertained beforehand beyond any doubt that the patient is neither pregnant nor suffering from cellulitis.

Having satisfied yourself on these points, you may thus introduce the sound. Passing your index to the os uteri, and taking the instrument, previously warmed and lubricated, in the opposite hand, it may be glided along the finger into the os uteri; then

FIG. 6.

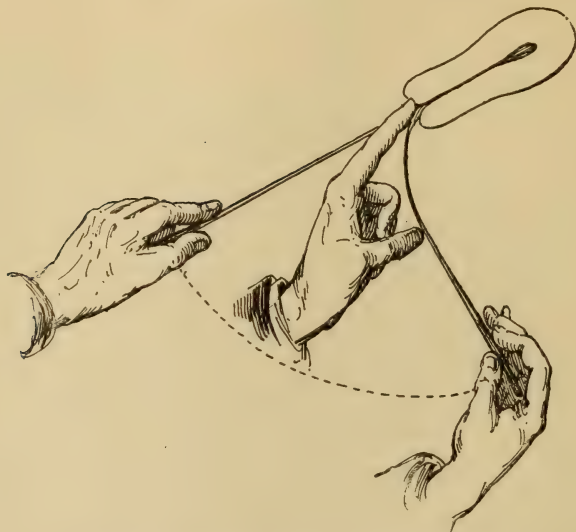


Godson's improved sound.

the handle should be semi-rotated and carried back against the fourchette, so that the point will be thereby swept into the natural curvature of the passage. If at the os internum or elsewhere any difficulty or resistance is encountered, the instrument should be withdrawn and its course deflected in a slightly different direction until it passes easily into the uterine cavity.

Use of the Speculum.—Not many years ago this instrument was the chief, and in most instances the only, appliance available in the physical diagnosis of uterine diseases. It has, however, since then been relegated to a comparatively subordinate place in

FIG. 7.



Method of introducing uterine sound (after Mundé).

gynæcological investigations; whilst at the same time its range of utility in operative gynæcology has been developed to an extent formerly undreamt of.

The diagnostic uses of the speculum are chiefly confined to certain injuries of the cervix uteri, and to the detection of abnormal conditions of the vaginal walls, such as vesico-vaginal and recto-vaginal fistulæ. For some of these purposes an instrument similar to the modern cylindrical speculum was employed by Paulus Ægineta upward of a thousand years before it was suggested as a new invention by Récamier, of Paris, and about the same time also by Balbernie, of Edinburgh, early in the present century. The practical reintroduction of the speculum into modern usage did not, however, take place until after the publication of the first edition of Dr. Bennet's work "On Inflammation of the Uterus," half a century later. Thenceforth

this instrument came into universal use, and for a long time the most exaggerated views prevailed as to its utility. Still no improvement was suggested in its form nor were its most important

FIG. 8.



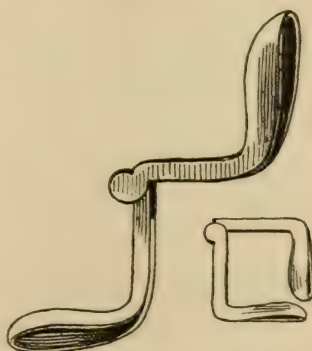
Sims's duck-bill speculum.

uses recognized until the late Dr. Marion Sims devised the speculum which still makes his name "familiar as a household word" in every civilized land.

For all practical purposes the best instruments of this kind are either Sims's original duck-bill speculum or Duke's modification of it. The advantages of these over other instruments are greater readiness in use, clearer view of the parts within their range, and increased facilities for all operative procedures thereon.

To use the duck-bill speculum the patient must be placed in the left lateral semi-prone decubitus already described. Then, the cervical position having been previously made out by digital examination, the surgeon separates the labia and introduces whichever blade of the speculum is suitable to the case, upward and backward to the vaginal roof behind the cervix, which thus comes into sight. The handle is now given to an assistant, by

FIG. 9.

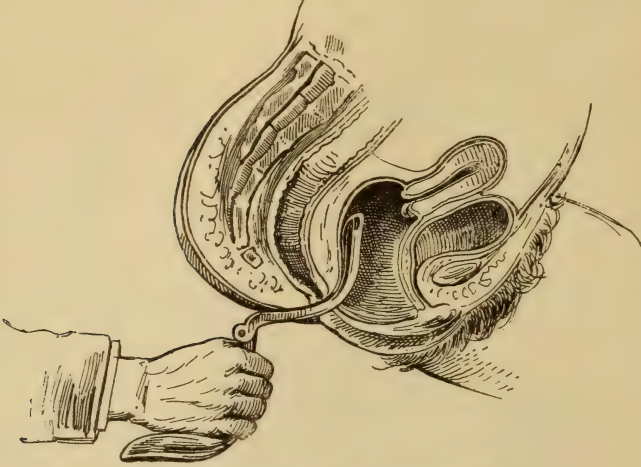


Duke's jointed duck-bill.

whom it is to be kept steadily in the required position. If the cervix be not then sufficiently seen, it may be brought into

view by Sims's uterine hook or by my cervical tenaculum, which, as you may see, has the advantage of being readily set at any

FIG. 10.

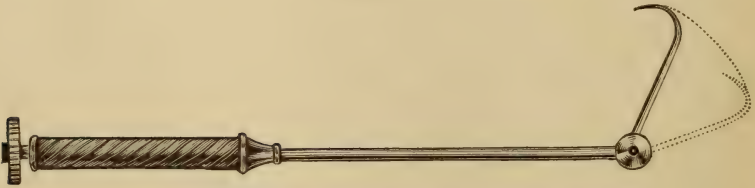


Method of using jointed duck-bill speculum.

angle desired, and of being instantly disengaged from its firm hold on the cervix by merely turning the screw adjustment in its handle.

The cylindrical glass speculum, so long relied on for utero-vaginal examination and medication in those not very remote days when gynæcology consisted mainly in the discovery and the treatment of supposed cervical ulcerations, although to a large extent superseded for practical purposes by the various modifica-

FIG. 11.



More-Madden's adjustable uterine tenaculum.

tions of Sims's, Barnes's, Emmet's, and Thomas's retractors, is still employed by many practitioners. Hence its use must be briefly referred to.

In employing this instrument the patient should be placed in the usual left lateral position, well out to the edge of the couch. The surgeon, standing behind this, having ascertained the position of the os, takes the lubricated speculum in his right hand, and, separating the labia, passes the instrument upward and backward, and then by slightly turning it forward exposes the cervix.

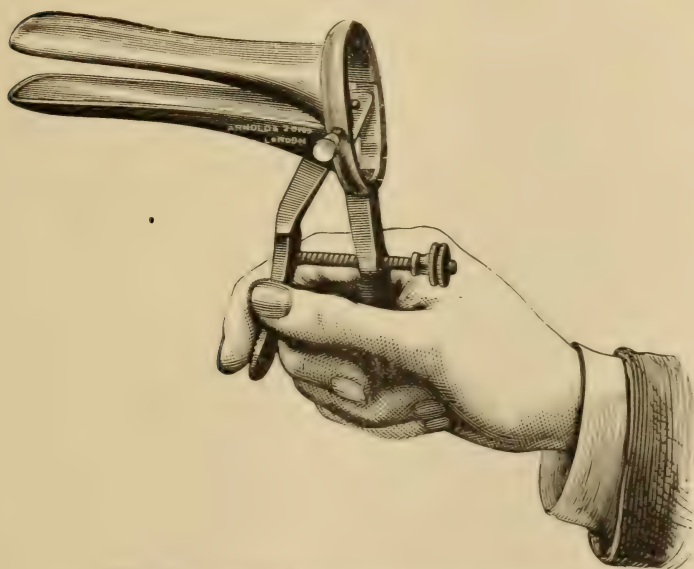
A far better instrument than that just referred to is Arnold's modification or combination of the bivalve and duck-bill spec-

FIG. 12.



Cylindrical speculum.

FIG. 13.



Speculum, duck-bill and bivalve combined (Arnold's).

ulum, which is self-retaining and affords a sufficient view of the parts.

The chief advantages claimed for this speculum are that it gives a larger view of the cervix uteri and roof of the vagina than any cylindrical speculum, and tends to separate the lips of the cervix and afford a view into the cervical canal. In these respects it

resembles the duck-bill speculum, but has the advantage of requiring not even one hand, as it retains itself. Moreover, the blades are separable, so that one can be removed, the other remaining *in situ*. When used in the left lateral position the handles must be turned to the perineum; when used in the dorsal position they may be turned towards the symphysis pubis; but if it is desired to use the posterior blade eventually as a duck-bill, the handles must in any case be turned towards the perineum. It thus forms the bivalve and duck-bill speculum in one, and is useful not only for examinations, but also for operations in some cases.

Visual Examination in Gynæcology.—The importance of sufficient illumination as an essential element in the diagnosis and treatment of those morbid conditions of the vaginal portion of the uterus and of the vagina in which the speculum is resorted to is obvious. As was remarked by Dr. Bennett more than a quarter of a century ago, "Whatever speculum be used for an examination, to render it satisfactory the entire cervix should be brought within the field of the instrument, and in a sufficiently good light to render evident the most trifling morbid change in the local state of the organ." Yet to the neglect of due attention to this consideration must, I think, be largely ascribed some of the erroneous views and practices which for many years retarded the progress of our branch of medicine, inasmuch as the instruments originally employed for visual examination for some years after Récamier's reintroduction of the vaginal speculum—whether Madam Bovin's ivory speculum or Charrière's quadrivales, of which I here exhibit specimens which were in actual use within my own recollection—could afford no possibility of a distinct view of the cervical portion of the uterus by any illumination that could be thrown into them.

Our impressions on any subject, as we are told, are mainly dependent on the light in which it is presented to us; this truism, which is quite as applicable to physical objects as to abstract questions, is cited in the present connexion inasmuch as it may, I think, serve to explain the very opposite descriptions and delineations which, in the earlier days of gynæcology, writers of apparently equal accuracy, and with equal opportunities of clinical experience, have left on record with regard to the aspect and character of the most common forms of disease which are dis-

cernible through the vaginal speculum. For instance, a little more than thirty years ago several very heated discussions were thus occasioned; from the time when Dr. Henry Bennett on the one side and Dr. Robert Lee on the other broke their spears and lost their tempers over the then moot question of the existence and importance of cervical ulcerations, a controversy in which, as in most other similar discussions, each was perhaps equally in error, and neither could see the truth as it has been since disclosed to us by improved methods of investigation, to which I venture to think that appliances such as that to which I shall refer may prove subservient. Looking at the cervix by the light then available for this purpose, Bennett persistently asserted that ulceration of the os uteri was the most frequent pathological condition disclosed by the speculum, whilst on the other hand Robert Lee, at the same period, not only strenuously denied that this was the case, but even disputed the possibility of such a condition. Thus, in the Transactions of the Royal Medico-Chirurgical Society for November 1, 1857, the latter stated that "neither in the living nor in the dead body had he ever seen a case of simple ulceration from chronic inflammation of the os or cervix uteri, and to apply the term to states of the os uteri in which the mucous membrane, or, as it is termed by some, the basement membrane, is not destroyed by ulceration, was an abuse of language calculated only to deceive and mislead the members of the medical profession, from whom the truth had been carefully concealed. The speculum emanates from the syphilitic wards of the hospitals at Paris, and it would have been better for the women of England had its use been confined to those institutions."

Nor was this emphatic negation of the character of the morbid conditions which are depicted as ulcerations of the os and cervix in Bennett's treatise on uterine disease—and many of which presented themselves as such to him and his followers until their true nature was ascertained long subsequently by Dr. Emmet, and which, as I believe, were so long regarded as ulcerations mainly because they were inspected through a badly-lighted speculum—sufficient for the uncompromising obstetric physician of St. George's Hospital, but it led him, as just said, to the length of denying the utility of the instrument through which such erroneous views of uterine pathology had been obtained. Had, how-

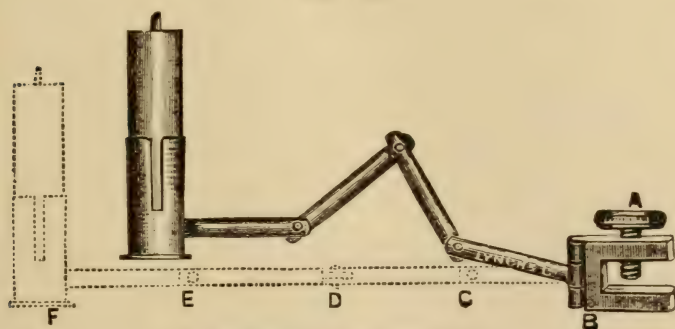
ever, those who thirty years ago thus differed as to the nature of the morbid appearances presented to visual examination by the vaginal speculum, and entertained such widely opposite opinions as to the value of the means by which they were disclosed, possessed instruments such as the various forms of specula which from the time of Fergusson and Marion Sims have been developed and brought to their present perfection, and enjoyed the advantage of those methods of illumination by which direct sunlight may be now replaced, when necessary, the violent controversies and erroneous practices of former days might probably have been avoided.

Much as has been done in this respect, there is, however, I think, still room for further improvement, as even yet among the every-day troubles of gynæcological work not the least frequent or least annoying of its kind is the difficulty occasionally experienced in making a satisfactory visual examination of the vagina or the vaginal portion of the uterus, in many cases where it is required for diagnostic or therapeutic purposes. In regions wherein sunshine is so exceptional as, unfortunately, is the case under the leaden skies and murky atmosphere of the British Isles, this difficulty frequently presents itself even in the best-arranged consulting-rooms, where the couch is most advantageously placed with reference to light. And, *à fortiori*, it occurs still more commonly in the patient's chamber, where the bed is often so situated as to preclude full access of natural light into the speculum. Nor is this deficiency supplied by any of those electric speculum-lamps that I have myself at least as yet employed, these being apt to fail us at the moment their aid is needed; as, owing to some one or other of the defects either in battery, connections, or lamp that are of such continual occurrence in electric apparatus, on pressing the button, instead of the brilliant flood of light expected, the result obtained may be either *nil* or else merely the dull-red glow of the incandescent carbon filament. On the other hand, if we content ourselves with the more reliable, if less elegant, "bit of candle-end" still recommended by some authorities for this purpose, the necessity for holding it so as to throw some light into the speculum must largely interfere with any manipulation required by the case.

I would, therefore, suggest to other practitioners who are likely

to meet with the difficulty just referred to, a trial of the little appliance now shown, which I have found serviceable under such circumstances. It consists simply, as will be seen, in a very portable many-jointed light-holder, capable of rotation in every direction, which can be instantly and securely affixed to any form

FIG. 14.



More Madden's speculum illuminator.

of speculum so as not to be in the surgeon's way, whilst affording sufficient and reliable light for all examinations or operations in the vaginal passage.

Endo-Uterine Examination.—The use of the uterine sound in endo-uterine investigation has been sufficiently described, and in this connection we might also perhaps refer to digital and visual examination of the uterine cavity, and the various methods available for the expansion of the cervical canal for these purposes; but, as the present lecture has already extended beyond the allotted time, this must be deferred for another occasion, and will, I think, be most appropriately referred to when we come to consider the treatment of those conditions in which such procedures are generally called for.

LECTURE III.

INJURIES OF THE PERINEUM, THEIR CAUSES, CONSEQUENCES,
AND REPARATIVE TREATMENT.

GENTLEMEN,—In the introductory lecture I mentioned that during the present session I hoped to bring the principal diseases peculiar to women systematically, and as nearly as possible in their anatomical order, under your consideration. In conformity with this design I shall therefore take a case of perineal laceration in which perinæorrhaphy was performed twelve days ago, and of which we saw the successful result this morning after the removal of the sutures, as a text for some observations on the injuries to which the pelvic floor is liable, and the methods that are available for their reparation.

The perineum, although occasionally the seat of hæmatocele, abscess, injuries from external violence, etc., most frequently comes under gynæcological notice in consequence of rupture from parturition. In almost every first labor this structure sustains some fissuring, which under ordinary circumstances is limited to the fourchette or anterior perineal fibres, and requires no special consideration. Too often, however, it happens that the laceration involves the entire raphe up to the sphincter ani, or, extending through this into the rectum, may thus occasion one of the most untoward accidents that can well befall a woman. In some rarer instances the foetal head may also be driven through the centre of the perineum, leaving the fourchette and sphincter intact. Moreover, as already alluded to, the perineum is occasionally torn by external violence, or, as occurred in a case recently under my care in this hospital, may be unavoidably ruptured during the removal of a large uterine tumor. In the vast majority of cases, however, extensive perineal lacerations result from either misadventure or negligence in obstetric practice.

Prevention of Perineal Laceration.—Within the past few years the accident in question has been less frequently met with in

private practice than was the case in my earlier experience. This is probably due in a large measure to the more judicious views now commonly adopted with regard to abstention from unnecessary interference with the perineum, under ordinary circumstances, during the second stage of labor; and also to the general recognition of the fact that, in those cases in which the perineum if left to nature will probably become lacerated during the passage of the foetal head or shoulders, this accident in some instances can be best obviated by the older method of support, in others by retraction, and in others again by transverse incisions of the perineum. The latter measure was originally suggested as a means of preventing threatened laceration by Sir Fielding Ould, of Dublin, and after nearly a century of oblivion was resuscitated by my former colleague, Dr. Roe, and by myself, and has since been elsewhere adopted. The practical utility of this suggestion in those exceptional cases in which its application is really necessitated by otherwise unmanageable rigidity of the perineum, and to which its employment should be limited, has been abundantly demonstrated by clinical experience, which cannot be outweighed by the mere opinion to the contrary of writers who, without any practical knowledge of its use, have questioned its value.

Consequences of Rupture of the Perineum.—Where the perineum has been lacerated along the raphe from fourchette to sphincter ani, a sense of falling through or want of uterine support invariably results from the destruction of the natural *point d'appui* of the vaginal column. By the withdrawal of this support, the weight of the uterus is thrown on its ligamentous attachments to the pelvic walls. Hence a constant and increasing tendency to uterine displacement follows any extensive laceration of the perineum. Even a comparatively minor perineal rupture is frequently productive of prolapse of the vaginal walls and cystocele, as well as of uterine procidentia. The latter would be still more commonly met with were it not that in such cases the fundus uteri is often found in a state of congestive hypertrophy, eventuating in some degree of retroflexion, by which the weight of that organ is thrown back into the cavity of the sacrum, and hence it does not then fall directly downward, as would otherwise be the case.

Treatment.—Under this heading I must refer briefly to the immediate as well as to the secondary treatment of this accident. In every obstetric case the perineum should be carefully examined on the completion of the second stage of labor, and any laceration extending beyond the fourchette which might prove a probable channel for sepsis if neglected should be dealt with immediately after the expulsion of the placenta. At that moment the lacerated parts are generally in such a non-sensitive condition, from the pressure to which they have been subjected, that they may be sutured and brought together with little pain, and even before the patient is aware of the accident she has suffered.

For this purpose either silver wire or carbolized silk sutures may be employed. The former are less apt to cause subsequent irritation or to slough out, whilst the latter have the advantage of being less liable to be disturbed in the after-treatment of the case; nevertheless, as a matter of fact, in my own practice I have obtained equally satisfactory results from both. It is hardly necessary to observe that whichever of them is employed should be introduced by a suitably curved perineal needle. The first stitch may be introduced at the posterior edge of the wound, and thence at intervals of three or four lines towards the fourchette, care being taken to introduce the needle sufficiently far from the edge of the rent, and sufficiently deeply into the perineal structure to secure the firm cohesion of the parts. The sutures should not be over-tightly twisted if metallic, nor over-tightly tied if silken. In either case they should be cut as closely as possible to the surface, and may then be left *in situ* for at least a week. During the first three or four days the bowels should be kept confined, by a morphia suppository if necessary, and the urine be regularly drawn off. Moreover the knees, with a pad interposed, should be kept bound together for some days after the introduction of the sutures, and the vagina be frequently syringed out with warm water, plain or carbolized, so as to keep the wound as aseptic as possible. If you observe these simple directions you will, judging from my own experience, seldom fail to secure primary union of any perineal lacerations thus treated.

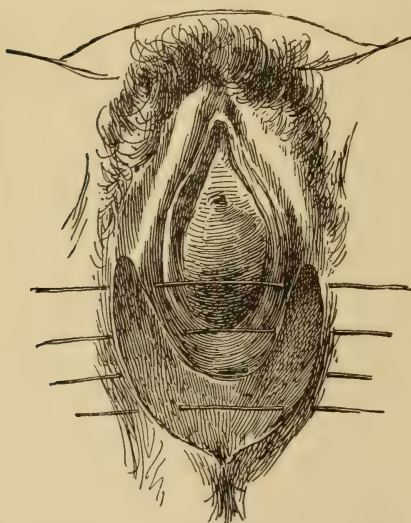
Secondary Treatment.—Whenever a laceration has not been successfully treated in this way immediately after its occur-

rence, then it should not be touched for at least three or four months. Under these circumstances, the more chronic the case the greater will be our chance of securing its reparation by the comparatively facile and simple older, or denuding, operation. The latter, although now largely superseded by the methods suggested by Lawson Tait, Marcy, Duke, and others, still offers advantages in some instances, and affords results which in ordinary cases of perineal laceration may oftentimes prove more satisfactory than those of the more recent procedures that have been recommended, and therefore may be here described.

Denuding Operation for Lacerated Perineum.—The bowels and bladder having been previously evacuated, the patient should be placed in lithotomy position and etherized. Then, as the operation must needs occupy some time, the surgeon should sit down facing the perineum, which must be sponged over with a hot carbolic or corrosive sublimate solution. Next, rolling out the inner surface of the laceration so as to expose its extent and depth, the operator may make a free semi-lunar incision along its edge, commencing a quarter of an inch beyond the margin and continuing upward towards its anterior face. A similar incision is now to be made a little farther beyond its external margin, and the surface included between these two incisions is then carefully dissected out from below upward in one continuous strip. The same course should be followed on the opposite side, special care being taken to prevent any puckering by the complete removal of the cicatricial tissue and mucous membrane at the lower angle of the wound. The denuded surface ought to be now sponged over with hot carbolic solution to arrest the usually profuse venous hemorrhage attending this operation, any spouting arteries being twisted if small, or ligatured if large. Next the deep sutures should be introduced by Denham's large curved perineal needle, eye in point, which is the best for this purpose, and which should be passed in half an inch outside the external margin of the wound, so deeply that the point may be seen emerging well beyond its denuded vaginal surface. Then by depressing the handle we force the point upward and outward at a similar distance from the opposite side of the wound. The needle may now be armed with a stout silver wire and withdrawn. The number of sutures to be subsequently introduced must, of course,

depend on the extent of the wound in each case. In all instances they should be inserted at intervals of half an inch from below upward throughout its extent. It is hardly necessary to observe that care must be taken not to include the rectum in these stitches.

FIG. 15.



Baker Brown's denuding perineal operation.

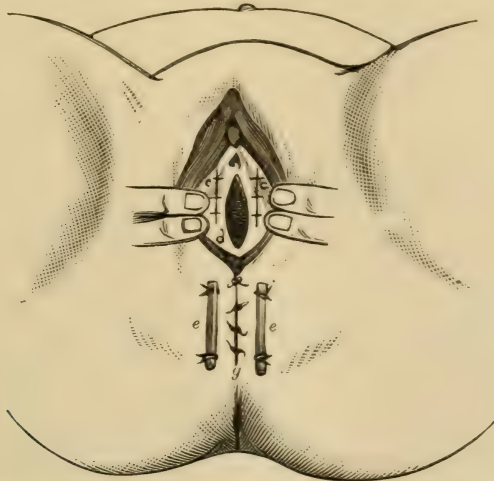
When their introduction is completed, the edges of the wound may be brought together and the wires fastened by the quill suture, after which a few superficial stitches of finer wire will be required along the margin of the parts. These may be then sponged over and dusted with iodoform, and large compresses applied over the gluteal region on either side, secured by a proper roller so as to press the buttocks together and prevent any tension on the sutures. A retaining catheter should be introduced ;

and, lastly, the parts are to be covered with the usual antiseptic dressing, after which the patient may be replaced in bed.

During the healing of the wound its perfect aseptic condition is a matter of primary importance, and must be carefully attended to. The bowels should be kept from acting, and pain relieved by opiates, if they be necessary ; the retaining catheter being also changed regularly twice a day for at least a week. At the end of three or four days the superficial stitches may be removed, but the deep sutures should not be disturbed until at least four days later, and after their removal the support of the gluteal compress should be continued for some time longer. In this way we may, I believe, in many cases, succeed in restoring, not merely the apparent, but also the actual, structural and functional integrity of the ruptured perineum, so far as to enable it to withstand the stress of subsequent parturition, and afford a sufficient support to the vaginal column.

This denuding operation has been variously modified by Drs.

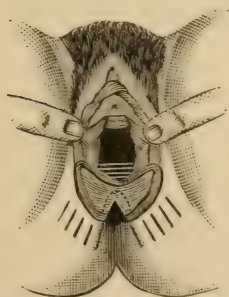
FIG. 16.



DENUDING OPERATION, WOUND CLOSED.—c, c, lateral interrupted sutures; d, orifice of vagina; e, e, quill sutures; g, interrupted perineal sutures.

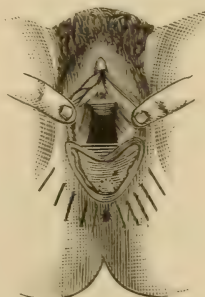
Thomas, Graily Hewitt, and Emmet, as well as by Goodell, whose operation is here depicted.

FIG. 17.



Denuded surface, anus involved
(Goodell). No. 1.

FIG. 18.



Denuded surface, anus not involved (Goodell). No. 2.

Tait's Perineal Operation.—As I have already observed, the denuding perineal operations just described have been largely superseded by one or other of the three procedures which have been designed for the same purpose by Drs. Lawson Tait, Marcy,

of Boston, and Duke, now of Cheltenham. Of these the most generally known in this country are Dr. Tait's methods. I regret that the limits of space here prevent my quoting *in extenso* the details of these as given by the author to Dr. McNaughton Jones, from the fifth edition of whose "Manual of the Diseases of Women" the following abstract of his account of the most salient features in the technique, together with three of the accompanying illustrations, is taken. For restoration of a torn perineum Tait employs sharp-pointed scissors, with which he thus operates.

"Having the folds of the buttocks pulled firmly apart, so that the cicatrix is put on the stretch, I enter the point at its extreme end on one side, and, keeping strictly to its line, I run through to its other extremity. The incision is about three-eighths of an inch deep, and it forms two flaps, a rectal and a vaginal. From each end of the incision it is carried forwards into the tissue of each labium for about an inch, and again backwards for about a third of an inch, making a wound like this (Fig. 19).

FIG. 19.

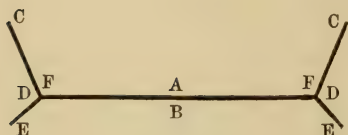
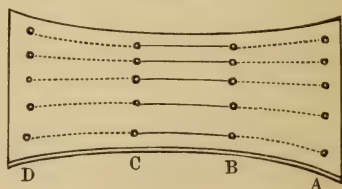


FIG. 20

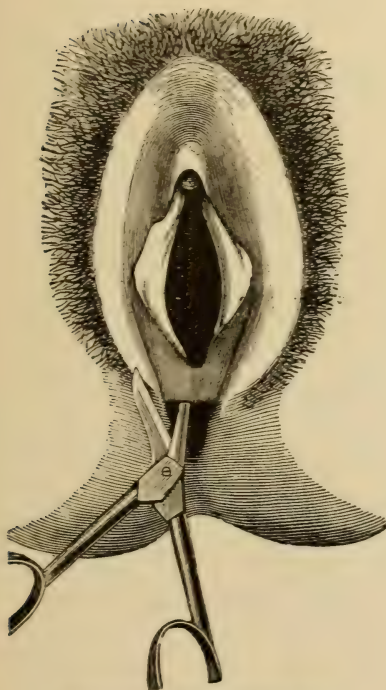


"The vaginal flap A is held upwards (the patient being on her back), and the rectal flap B being turned downwards, the angles A F C being pulled by forceps diagonally upwards and inwards towards the middle line, and the angles B D E being pulled downwards and inwards. The lines C E thus becomes straight, and the wound takes the form shown in Fig. 20.

"By means of a stout-handled and well-curved needle the silkworm-gut sutures are entered on one side about an eighth of an inch within the margin of the wound (so as not to include the skin) at the dots A. They are buried deeply in the tissue as far as B, and then the needle is made to emerge so as to miss the angle of the wound. The needle again enters at the large dots C and emerges at the dots D. By thus missing the upper or deep

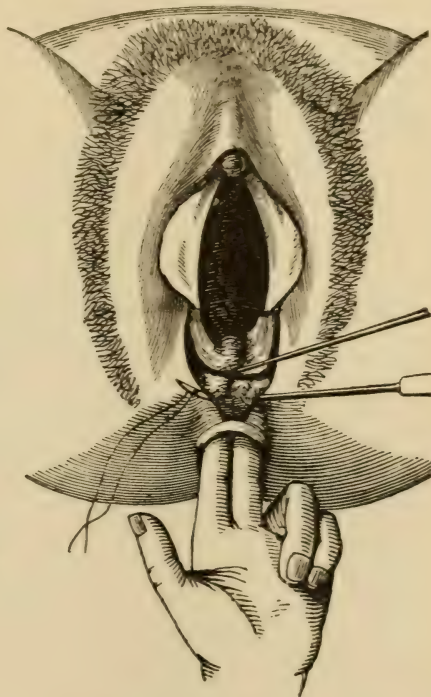
angle of the wound between B and C, the two great and divided masses of the old perineum, which lie in the parallelograms respectively bounded by the lines of large dots A—B and C—D, are accurately adapted. The rectal and vaginal flaps respectively point into the rectum and vagina, and, like an old-fashioned flap-valve, prevent noxious material entering the wound. The result-

FIG. 21.



TAIT'S OPERATION.—Splitting the recto-vaginal septum.

FIG. 22.



Passage of the suture. (Jones, after Fancourt Barnes.)¹

ing mass of perineum is amazingly large; union is almost inevitable, for I have failed only twice in many hundreds of cases, and then because there had been previous denuding operations. The resulting cicatrix is absolutely linear, and so resembles the natural raphe that in three or four months after the operation it

¹ "The drawings," adds Dr. Jones, "were made for Dr. Fancourt Barnes, by Professor Vulliet, of Geneva."

is quite impossible to determine, from the appearance of the parts, that the perineum has ever been injured, for there are no stitch-hole marks left to tell the story. The pain experienced after the operation is trifling compared to the old method of quilled or shotted suture. I leave the stitches in for three or four weeks, and take great care that the rectum and vagina are washed out twice daily."

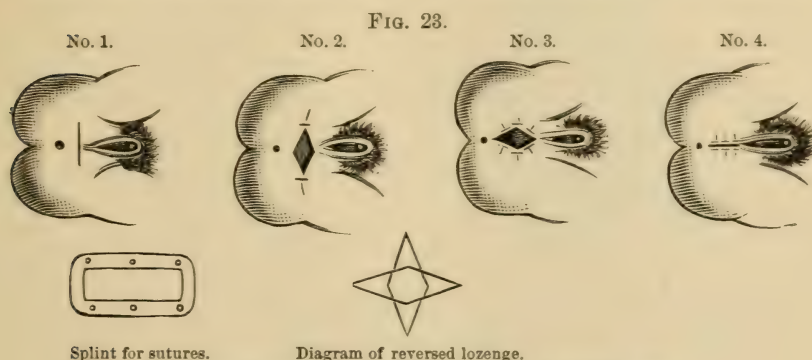
Duke's Method of Perinæorrhaphy.—The most recent of these operations, however, is that suggested by Dr. Duke, which, having found very facile in performance and very effectual in its object in the large number of instances in which I have tried it, I now almost always employ in the cases here referred to. As that operation, however, has not yet been described in any of the text-books, I would commend to your consideration the following account of it, which the author has kindly furnished me.

"I wish," says Dr. Duke, "to bring before the notice of my gynæcological brethren an operation I have designed for the restoration of a lacerated perineum, easy of performance, and which will, when properly executed, form a good perineal floor, and I might almost say practically a perineal body. The patient, having been prepared by the usual preliminary steps required for the old operation, when under the influence of an anæsthetic is placed in the lithotomy position; the left index-finger being introduced almost its entire length into the rectum, a long straight double-edged bistoury is made to pierce the tissues in front of the anus at right angles to the vulva, and, guided by the finger in the rectum, is made to penetrate the septum for two and a half inches upwards, the incision being enlarged laterally to two inches as the knife is withdrawn.

"The patient is then turned on her side, and, on the points of incision being pressed together, a lozenge-shaped opening will be seen, and, when all sutures required have been introduced and are properly adjusted and approximated, the two cut surfaces are brought into direct apposition. The sutures are introduced by a strong cycle-shaped needle with eye near point, mounted on a handle, strong silver wire being the suture preferred.

"The needle is introduced at edge of incision, and, guided by a finger in the rectum, is made to travel under the cut surface to its full depth above, describing the arc of a circle; and, on point

of needle appearing *directly opposite*, it is threaded with suture and drawn through. On the ends of this being drawn together with the fingers, a good idea can be formed of how many additional stitches may be required. When all considered necessary have been inserted and approximated, being first passed through perforation in leaden plate (see illustration), a finger of each hand



Perinæorrhaphy by Alexander Duke, F.R.C.P.I., Dublin, 1891.

passed into rectum and vagina will at once recognize the gain in thickness of septum, the external tissue being pushed fully an inch forward from anus, and forming a thick and solid perineal body.

“The incision being a deep one, on union taking place between the raw surfaces a considerable amount of support must be afforded in cases where a pessary is required, or where there is much tendency to prolapse of uterus or vaginal walls. My experience of the operation has satisfied me with the results, and, there being *no loss of tissue whatever*, should the operation fail, it cannot add any difficulty to a subsequent one.

“Even should the perineum be lacerated to verge of anus, what I describe can be done. I find that leaving the sutures for ten days is generally sufficient; but if I am in doubt as to the union being strong, I cut the wire, but leave it *in situ* for a day or two longer, thus affording some support and relieving the strain on the edges of the suture-holes, and I also support the parts by long strips of adhesive plaster carried from hip to hip over new perineum.

“The wire should be stout and not too tightly twisted. My

friend Dr. More Madden has kindly given my operation a trial, and was much pleased with the result, especially in one of his cases where the old plan of operation had been tried previously, but failed owing to the patient's poor state of health and want of healing power. The advantages of my plan of operation are briefly these :

"1. The simplest of performance as yet proposed, no danger of hemorrhage, the surface when dry being brought together.

"2. No danger of sepsis, as the incision is not open for the admission of any discharge from either vagina or rectum during healing process.

"3. No loss of tissue, and consequently no harm done should the operation fail."

LECTURE IV.

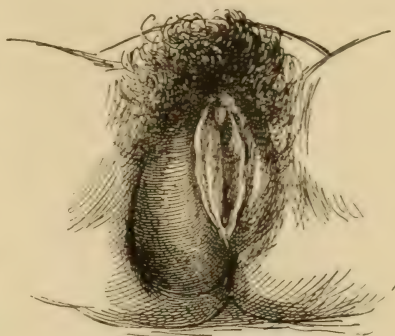
INFLAMMATION, HYPERTROPHY, TUMORS, HÆMATOCELE, AND MALIGNANT DISEASE OF THE LABIA AND NYMPHÆ.

GENTLEMEN,—The pathology of the vulva, judging from the frequency with which diseases and injuries of the external organs of generation are met with in our gynæcological wards and dispensary, is entitled to greater consideration than is generally given to this subject in text-books. I therefore purpose this morning to bring some of the more common of these complaints under your notice.

Acute inflammation of the labia is less generally observed in private practice than among the poorer classes of our hospital patients, in whom it frequently results from direct violence, such as a kick or blow, probably inflicted by some drunken brute of a husband, or it may be consequent on any local injury or accident. We recently had a case of this kind in hospital, that of E. H., aged sixteen, who was admitted into St. Monica's Ward, suffering from a pudendal injury resulting in the condition shown in Fig. 24. The history of this case was that two months previously the patient had slipped whilst running along the edge of a cliff, and was, as she stated, saved from falling into the sea below by coming

astride a rocky point, on which she hung impaled midway between sky and water. On being rescued from her perilous position she complained of severe pain in the pudendum, but could not be induced to seek medical advice until after nearly two months' suffering in bed. She was then sent up from the country. On admission an enormous abscess was found in the right labium. This was opened and nearly a pint of fetid pus evacuated, after which she recovered rapidly.

FIG. 24.



Labial abscess (A. D.).

In some instances inflammation of the labia may be of medico-legal interest, as in cases of alleged rape, or it may occur as a puerperal disease from protracted pressure on the parts in cases of difficult labor.

I need not dwell on the symptoms or diagnosis of this disease, as the sudden occurrence of acute pain, tumefaction, and increased vascularity in the labia following any of the injuries referred to are sufficient to distinguish its existence.

Treatment.—Acute labial inflammation in its first stages generally requires to be treated merely by rest, saline purgatives, and lead lotion. As a rule, however, we are seldom consulted in such cases until the parts have become infiltrated with exudative products, and are rather in a state of congestive hypertrophy than of acute inflammation. Under these circumstances we must relieve the local tension by freely leeching or puncturing the congested labia, and follow this by poulticing until either the disease subsides or suppuration takes place. In the latter case the resulting abscess must be promptly opened and treated on ordinary principles.

Hypertrophy of the labia, with a similar condition and deformity of the nymphæ, is not uncommonly witnessed during examination for other diseases. The inconvenience so occasioned is seldom, however, in temperate climates at least, of sufficient importance to be brought under consideration as a primary affection.

In the ordinary cases of vulval hypertrophy with which we are here familiar, the disease usually occurs in women beyond middle age, and in the married more commonly than the unmarried. In many instances you will find not merely a thickening, but also a hypertrophic elongation, of the labia, which may be thus protruded to a considerable extent beyond the vulval orifice, either the greater or the lesser labia, or both, being thus affected. The surfaces of the hypertrophied labia are sometimes rugous or fissured; in other instances they may be smooth, and uniform in this respect with the unaffected labium. In the former the disease is frequently of syphilitic origin. In the latter it is usually local in its character.

Treatment.—In the majority of cases the form of vulval hypertrophy just described requires no active local treatment beyond brushing the parts well with iodized phenol and the subsequent application of an astringent lotion. If the enlarged labia be lobulated or fissured, iodoform may be usefully dusted over the diseased surface. In these cases it is necessary to pay some attention to constitutional treatment, especially by the administration of iodide of potassium or perchloride of mercury, if we have any reason to suspect the syphilitic origin of the local disease. In those exceptional cases in which the hypertrophy, by its extent or the persistently unhealthy state of the diseased surface, causes grave inconvenience, we must resort to its removal by either the *écraseur* or the galvanic cautery.

Non-tubercular elephantiasis of the labia is comparatively seldom witnessed in European or American practice, although it is a very common affection in tropical climates. Nevertheless, even in these countries such cases are occasionally observed, as we have recently had an instance in this hospital. Some years ago, however, I had opportunities of studying this disease in countries where it is prevalent, viz., in Morocco and Algiers, and again in Egypt, where I have seen the labia and nymphæ involved in immense hypertrophic growths extending from the *mons veneris* to the perineum, and extruding widely from the vulval orifice, which was thus blocked up and concealed. The surfaces of these tumors are commonly fissured or lobulated and more or less ulcerated, and the exposed hypertrophied papillæ are generally bathed in an offensive ichorous discharge. The

disease generally begins as an acute inflammatory affection of the labial lymphatics, soon eventuating in fibro-plastic exudations and new formations on the cutaneous surfaces of the parts.

Treatment.—In such cases the morbid growth must be removed as soon as possible by the galvanic wire cautery or the thermo-cautery. After its removal in this way, however, the disease is extremely apt to recur in the adjacent parts, though that probability may be lessened by appropriate constitutional treatment, especially by a long-continued arsenical course with ferruginous tonics and a nutritious non-stimulating dietary. In those cases of this kind which are not unfrequently met with about the period of the menopause in over-fed inactive women of the better class of society, I have sometimes found that, if the patient's circumstances will permit it, a course of some arsenical chalybeate water, such as Royat, may cure the disease in cases apparently similar to those in which all other treatment has failed to prevent its recurrence.

Tumors.—Besides the foregoing, the vulva is occasionally the seat of ovarian hernia, with an account of which another lecture will be occupied, and is also liable to the occurrence of fibrous, cystic, fatty, oozing, warty, and other tumors, the symptoms of which need not here be detailed, and the treatment of which may be summed up in the removal of the morbid growths by the methods that have been already described. Of these labial tumors probably that most commonly met with is McClintock's so-called "wart tumor of the vulva," which, though by no means invariably of syphilitic origin, is in many instances distinctly traceable to that cause.

Hæmatoma.—Moreover, the vulva is extremely prone, especially in the latter months of pregnancy, to undergo enormous cedematous distention; and also liable to sanguineous effusions, generally consequent on a varicose condition and rupture of some of the vessels in the erectile tissue in the bulb of the vestibule. This accident is in the great majority of instances the immediate result of some external violence or injury by which the contents of the dilated vessels become extravasated into the adjacent cellular tissues, giving rise to hæmatoma, or, as these blood tumors were formerly—and, as I think, better—termed, pudendal hæmatocele. Some recent authorities, however, among whom may be men-

tioned Drs. Parrish and Baldy, of Philadelphia, hold that "varicose veins do not particularly predispose to the formation of these thrombi," an opinion which, I may add, was long previously maintained by my old teacher Dr. McClintock, who stated that out of thirty-eight cases of pudendal hæmatocele there were only two in which a varicose condition of the veins was noted. Moreover, he never observed a case of this kind in the non-gravid state except as a result of direct violence, and he also remarked that even during pregnancy its spontaneous occurrence is very rare, the more usual cause of the affection being a traumatic one. Mauriceau mentions a case in which a blood tumor in the left labium had existed for twenty-five years, and which, on being opened, gave issue to a matter like the contents of an aneurismal sac. This, however, as Graily Hewitt says, must be regarded as "a very exceptional case. Ordinarily the thrombus of the vulva is a recent affection, of rather sudden formation, and in the majority of cases it is an accident attendant on labor;" or, if occurring prior to parturition, is liable to give rise to serious complications, either by the bulk of the blood tumor forming, as I have seen in one instance, a mechanical obstacle to delivery, or else by its rupture at that time giving rise to serious or possibly fatal hemorrhage.

Treatment.—In the earlier stage of a pudendal hæmatocele our chief object should be to endeavor, if possible, to promote absorption of the effusion, by rest, evaporating or lead lotions, and the exhibition of saline purgatives. If, however, at a later period there should be any evidence of the occurrence of suppuration within the thrombus, we should seek to favor the escape of the pus by application of hot poultices and stupes, rather than by those free and early incisions into the tumor which are advocated by some writers who apparently have no practical knowledge of the extreme vascularity of the pudendum, and the consequent immediate difficulty of arresting hemorrhage therefrom, as well as that of subsequently preventing the wound from becoming a portal for septic infection. In cases, however, in which a large pudendal hæmatocele may present an otherwise insurmountable obstacle to delivery at the time of labor, the necessity for immediate operative interference is quite obvious. As to the method by which that should be accomplished, authorities differ widely ;

on this point I am entirely in accord with my friend Dr. Leishman.

“In all cases in which incision has been determined upon, we must in the first place take care to make the aperture a free one; for if a small opening only is made, nothing will escape but fluid blood, and all the clots, which constitute probably the greater portion of the bulk of the tumor, will be left behind. If the clots are adherent, or firmly enclosed in the interstices of the tissues, care must be taken in dislodging them, lest we should unwittingly give rise to fresh hemorrhage. As regards the point of the tumor at which we are to operate, we must, in the first instance, be guided by the fact whether or not there is any indication of pointing, and, if so, our choice must fall upon the site so indicated. But if there be no pointing, and seeing that the thrombus is very generally situated in the labia, and has thus a cutaneous and a mucous surface, the question arises through which of these is the incision to be made. On this point, most of those who have written on the subject are agreed that to make the opening from the cutaneous side gives the patient the best chance. The freer exit for the discharges, the protection of the wound from the lochial and other irritating fluids, and the improbability of there being in future labors a cicatrix which might again give way, are among the reasons which have been urged in favor of this mode of procedure. The inflammation which usually supervenes upon the operation must be combated by appropriate means, such as strict cleanliness and suitable lotions and injections. The prognosis of all such cases is far from favorable. ‘Of sixty-two cases,’ says M. Deneux, ‘which have come to my knowledge, the woman died in twenty-two, either during pregnancy or labor, or afterwards. And, with the exception of one case, all the children of these twenty-two women died.’”¹

Lastly, if during delivery or otherwise the hæmatocele should become ruptured, we must at once turn out the clot and thoroughly irrigate the cavity with very hot water, or with turpentine, which is by far the most reliable of all local styptics, and then follow Dr. Goodell’s recommendation of compressing the exposed vessels directly by an acupressure pin or silver-wire suture, or else, as

¹ Leishman. *System of Midwifery*, vol. i. p. 261, Glasgow, 1888.

may generally be more easily accomplished, plug the cavity firmly with iodoform gauze, and at the same time apply counter-pressure

FIG. 25.



Syphilitic phagedenic ulceration of vulva.

by a tampon in the vagina, retained *in situ* by a properly-adjusted T bandage.

Syphilitic ulcerations of the vulva, although frequently brought under our notice, need not here be considered, as their symptoms and treatment come within the province of the surgical rather than of the gynæcological teacher. In one respect they are, however, of some interest in this connection, namely, in the frequency with which they are confounded with lupoid affections, from

which they must be distinguished by the history of the case, their more rapid progress, the absence of induration of the underlying cellular tissue, and the characteristic coppery aspect common to syphilitic sores generally.

MALIGNANT DISEASE OF THE VULVA.

The number of cases of malignant disease of the external parts that come under notice in our extern department is sufficient to show that the vulva is by no means unfrequently the seat of carcinoma as well as of epithelial cancer, and that it is also occasionally attacked by malignant, rodent, or lupoid ulceration and hypertrophy, presenting the most varied aspects in different cases. These were very graphically described and depicted a few years ago by the late Dr. Mathews Duncan in the twenty-seventh volume of the London Obstetrical Transactions, from which the following sketch of a typical case of this kind is taken.

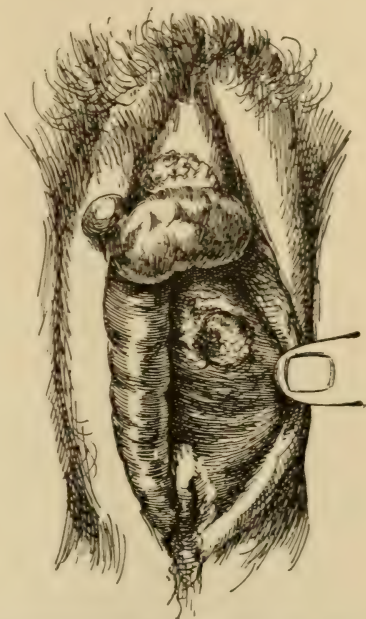
Both epithelioma and carcinoma of the labia are, however, more commonly observed among our hospital patients than in private practice, and also are more usually seen in childbearing women beyond the menopause than in younger or unmarried women.

Carcinoma vulvæ is readily diagnosed, occurring as a hard nodulated tumor, occasionally consequent on uterine cancer, occupying the substance of either labium and producing comparatively little local pain until it has become ulcerated, when by removing a portion of the softened surface the characteristic cancerous structure may be discovered on microscopic examination.

Treatment.—Cure in such cases may possibly follow the entire removal of the malignant growth, provided that the vulval disease is uncomplicated with cancerous deposits in other parts.

Vulval epithelioma is also most generally met with in advanced life, beginning as a fissure or else as a small warty excrescence at the junction of the skin and mucous membrane of the labium at either of its commissures. Thence the disease spreads rapidly and irregularly throughout the underlying connective tissue of the adjacent parts by a proliferating degeneration. The ulceration thus produced is irregular in form, with excavated edges, surrounded by a line of hard cancerous infiltration, and generally covered with an ash-colored slough, and gives escape to a sanious offensive discharge. As the disease progresses the adjoining lymphatics become the seat of secondary infiltration, and ultimately the patient, worn out by the lancinating local pain, profuse discharge, or occasional hemorrhage, as well as by the mental

FIG. 26.



Lupus affecting left nymphæ, labia, etc.

distress which in such cases invariably aggravates the physical discomfort, is relieved by death, unless she can be cured by the timely and complete removal of the diseased part.

The ordinary symptoms, course, and treatment of labial cancer may perhaps be better illustrated by the clinical history of a typical case of the form of malignant disease most commonly met with in these structures, than by any lengthened dissertation on this subject.

E. H., an unmarried woman, aged fifty, was admitted into St. Elizabeth's Ward suffering from cancer of right labium. Until a year previously she had enjoyed fair health. She then began to complain of pruritus and soreness of the pudendum, which gradually increased until the time she was sent up to hospital. On examination the right labium was found enormously enlarged by an unmistakably cancerous hypertrophic growth. The whole labial surface was ulcerated, irregularly fissured, and tuberculated.

Treatment.—It being found impossible to secure a sufficient hold on the softened and disintegrated structure of the cancerous growth with the vulsellum, we were in the first instance obliged to transfix the healthy integument at the base of the tumor with a strong needle, and thus to pass through it a stout whip-cord ligature, in order to enable us to pass a ligature around the base and subsequently to effect its separation by cutting this through from below upward. In so doing some large vessels were divided and had to be ligatured, whilst the ensuing venous oozing was so profuse and obstinate that it could be completely arrested only by a thorough charring of the surface of the wound with the thermo-cautery. During the healing of this extensive surface, which was very slowly accomplished, a new cancerous growth rapidly developed in the adjoining nymphae. This, six weeks later, was completely removed by the cautery knife, and after nearly three months' stay in the hospital she was sent back to the country, apparently well. Two years subsequently, however, she returned, when, though there was no recurrence of the disease in the vulva, a large, deeply-excavated, foul cancerous ulcer was found in the right groin, extending to a considerable distance upward on the abdominal parietes, together with numerous gland enlargements. Under these circumstances, this "one more unfortunate" returned home to die.

I have here detailed this case merely because it appears to me typical of the ordinary course of cancerous labial tumors and of the too general result of their operative treatment. For although I have in some instances removed such growths without there being any immediate recurrence of the disease, in a still greater number of cases it has returned; whilst in other instances the patients were lost sight of after the operation, and hence their ultimate fate was unascertained.

At the same time there can be no question that it is, generally speaking, our duty to give such patients their only chance of life by the complete removal of the cancerous tumor as soon as possible, by the *écraseur* or cauterly. It may be no little comfort to our patients under these circumstances to know that Billroth has said that "if a cancer fails to recur within a year from the time of operation, one may have reasonable hopes that it has been extirpated; in two years one can feel almost certain of a cure; in three years quite positive." Moreover, as Dr. A. F. Currier has observed in the *American Journal of Obstetrics*, "bearing in mind the local origin of the disease, this form of it offers peculiarly good opportunities for radical treatment." Therefore, provided there be no secondary or glandular complications present, we should, irrespectively of the probable recurrence of the disease, in such cases at least afford the patient relief from present mental and physical suffering by the complete extirpation of any labial cancer, whether epithelial or carcinomatous.

LECTURE V.

VULVITIS.

GENTLEMEN,—Continuing our survey of the diseases of the vulva as they here come under clinical observation, it will be found that one of the most commonly met with of these is diffuse inflammation of the parts within the vulvar area, either from gonorrhœal infection or from the ordinary non-specific causes of local inflammatory disease. The symptoms and treatment in both cases are practically identical, being mainly influenced by the

structure of the parts primarily implicated rather than by the cause of the inflammation. Thus, vulvitis may commence in the cutaneous or mucous surfaces of the pudendum, in its muscular substance, in its glandular or follicular structure, or in its cellular connective tissue, and in each instance the course and symptoms of the disease will be thereby modified.

Etiology.—The causes of vulvitis include every form of irritation that can be directly applied to these parts, or which may be transmitted to them by extension of other diseases or by reflex sympathy with remote pathological conditions. First among the former is the local irritation resulting from neglect of personal cleanliness. Next to dirt in the causation of this disease is the extension of inflammation from the vagina. Hardly less frequently is it a manifestation of the strumous diathesis. Among its other causes may be mentioned gonorrhœal infection, the effects of cold and local injuries, and congestion consequent on sexual excess or resulting from pregnancy, as well as reflex action from uterine, ovarian, and renal diseases.

Symptoms of Ordinary Catarrhal and Purulent Vulvitis.—Inflammation of the cutaneous and mucous surfaces of the labia and nymphæ begins by some degree of uneasiness, heat, and swelling in the affected parts, together with a leucorrhœal discharge. The latter soon becomes viscid and tenacious, and ultimately peculiarly acrid and offensive. In the course of the disease the inflamed parts become hypertrophied by plastic exudations. This is more especially marked in the nymphæ, which, under these circumstances, are frequently enormously enlarged. When either the mucous follicles of the nymphæ or the sebaceous glands of the labia are the primary seat of hyperæmia, the result in the former case is papillary vulvitis, and in the second the chronic follicular form of the disease.

Papillary vulvitis is most frequently observed in the nymphæ, the epithelium of which becomes eroded, whilst the subjacent exposed papillæ are intensely congested and hypertrophied. In addition to the local hyperæsthesia characteristic of this form of vulvitis the possibility of marital intercourse in these cases is further prevented by the parts being generally matted together by the viscid muco-purulent secretions from the eroded surfaces.

Chronic follicular vulvitis consists in a subacute inflammation of the sebaceous and mucous follicles of the labia or nymphæ. The earliest symptom is a thin leucorrhœal discharge which afterwards becomes muco-purulent and viscid. A painful tingling, sometimes amounting to pruritis, is soon complained of, and at the same time a peculiar spasmodic stricture of the pudendal orifice is generally observed. If a local examination be made on the commencement of this disease, a number of small, highly-injected points are seen on the inflamed mucous membrane. At first these points are solitary, and slightly raised on the surface, and a minute speck of ulceration is frequently seen in the centre. These points correspond to the follicular crypts of the mucous membrane, and the ulcerated portions to their central pores. After a time the points coalesce, and a band of vividly-injected membrane is formed.



Follicular vulvitis (after Churchill).

Treatment.—In the acute form of vulvitis our treatment should in the first instance consist mainly in rest, low diet, and purgatives, together with hot fomentations and poultices. After a day or two these may be replaced by any suitable cooling lotion, such as hazeline or dilute liquor plumbi, with the addition of a little laudanum. If much pain or tingling be complained of, especially in the papillary form of vulvitis, either a sedative lotion, such as the following—

R Glycerini acidi carbolic, ʒij;
 Glycerini boraci, ʒi;
 Liquor. morphinæ, ʒij;
 Aquæ menthæ piperitæ ad ʒx.
 M. et fiat lotio—

or a two per cent. solution of cocaine will generally afford immediate relief.

In other cases, where the inflammatory symptoms are more prominent than the local hyperæsthesia, and especially where the leucorrhœal discharge is peculiarly viscid, offensive, or ichorous, a weak solution of ichthyol or else black-wash often acts like a charm. Should this fail, however, we may perhaps employ with advantage a strong solution of nitrate of silver, in the proportion of one drachm to an ounce of distilled water. If the inflammation has invaded the deeper structures the soothing plan is the best, or leeches may be applied. The moment an abscess is formed it should be opened, for pus here has a great tendency to burrow in the loose cellular tissue and make its way to the rectum or perineum.

Purulent Infantile Vulvitis.—Under this heading I may refer to that form of vulval inflammation to which children, from infancy to puberty, are peculiarly liable. In the practice of the Children's Hospital, with which I have been for many years connected, this disease is frequently brought under observation. Occasionally it becomes a matter of medico-legal as well of medical interest, and I have more than once been called on to give medical evidence in criminal charges arising out of its occurrence.

Etiology.—Of all the assigned causes of vulvitis in childhood, by far the most important is the scrofulous diathesis, the influence of which in many instances of this disease is as obvious as it is in the glandular affections of strumous children. Next in frequency as a cause of infantile vulvitis must be reckoned the want of personal cleanliness among the neglected children of the poor with whom we have to deal in our hospital practice. In some cases, however, this disease manifests itself in non-strumous and well-cared-for children as the result of the irritation of ascarides in the neighboring rectal orifice. In others it assumes a catarrhal form, following exposure to cold and wet. In a few instances it results from direct local injury or accident. Lastly, it is occasionally ascribed to attempted violation or to gonorrhœal infection. Of the instances in which these two last causes of vulvitis have been insisted on by the parents of children brought under my observation at the hospital, in only one case was there any sufficient evidence to justify this suspicion.

Symptoms.—The symptoms of infantile vulvitis are almost identical with those of vulval inflammation in the adult,—viz., swelling, heat, and pain in the external genitals, followed by a discharge which is generally still more viscid and tenacious than in the latter. In some instances the walls of the pudendal orifice are thus so glued together as to cause extreme pain and difficulty in micturition.

Treatment.—In this form of vulvitis the local treatment is generally extremely simple, nothing more being usually required than warm anodyne fomentations and poultices followed by the use of a lead lotion or weak solution of carbolic acid or nitrate of silver. In all cases the patient must be kept in bed, and after free purgatives her strength should be supported by a light nutritious diet and a little wine, with the addition of any tonic—such as syrup of iodide of iron, dialyzed iron, extract of malt, or cod-liver oil—specially suitable for the strumous constitutional condition generally associated with the disease. At the same time the parts should be frequently thoroughly cleansed and washed with some antiseptic superfatted soap, such for instance as that containing ten per cent. of ichthyol in combination with lanoline. And, above all, we must seek out and remove any cause, such as the presence of ascarides in the rectum, by which vulvitis may be produced and kept up.

The vulvo-vaginal glands, or Bartholinian follicles, situated in the deep fascia at either side of the vaginal orifice, and their efferent ducts, opening at the side of the nymphæ, are liable to inflammation, which may eventuate in abscesses or in cystic disease. The first evidence of inflammation of these bodies, which in the female are analogous in structure and function to Cowper's glands in the male, is some obscure local pain or discomfort, swelling, and increase of mucoid secretion. As a rule, this condition attracts little special observation until it has passed from the acute into the chronic stage, in which it may last for years before the consequent structural changes become sufficiently marked to force attention to the diseased glands. If consulted sufficiently early, you should treat the initiatory stage of this affection as you would that of any other form of vulvitis. More generally, however, you will not see the case until a labial abscess has already formed, and, if so, this should be burst open by pressure if pos-

sible, otherwise it should be cautiously punctured and its contents squeezed out. If there be a cyst, as is often the case, in either gland or duct, we must resort to the thermo-cautery for the destruction of a sufficient space of its walls to prevent refilling; or, if the cautery be not at hand, the same object may be attained by cutting out a piece of the cyst-wall and then dressing this in the ordinary way with iodoform gauze or with boric acid.

Gangrenous Vulvitis.—The next disease to be considered is one the symptoms and treatment of which it will be especially important that you should become thoroughly acquainted with, and which in the adjoining Children's Hospital you may have a good opportunity of studying. For whilst phagedænic ulceration of the pudendum or gangrenous vulvitis is comparatively rarely observed in adults except as a result of syphilis or in the latter stages of fever, in children, and especially in those of strumous diathesis, this complaint is by no means uncommon as a sequence of measles or some other of the exanthemata. Under these circumstances gangrenous vulvitis is frequently met among the half-starved scrofulous children of the poorer class who come under observation in hospital practice. Whatever its origin may be, this disease generally commences in the form of patches or vesicles of livid congestion on the mucous or submucous tissue of the labium. These patches become developed in the same way as in phagedænic ulcers or wounds affected with hospital gangrene, of which they present all the characteristics, and are attended by great constitutional disturbance and pyrexia, as well as intense local suffering. The parts become swollen, red, and painful, a foul dark discharge exudes, micturition is very painful, and on separating the labia a dark-gray slough is seen on the surface of each. There is now noticeable a dusky redness which extends to the groin. The general condition is very low, with indisposition to take food, vomiting, general fever, and perhaps some diarrhœa. The similarity between noma, or phagedænic vulvitis, and cancrum oris in their etiology, symptoms, and general course, has been observed by all writers on the subject since the time of Underwood, by whom it was first described.

The fatal character of the disease may be inferred from the fact that out of fifteen cases observed in one epidemic only two recovered; and even in its sporadic forms my own experience of

its treatment is hardly more satisfactory. Thus, of the cases of noma pudendi admitted within the past twenty years into the Children's Hospital under my care, and which were in an advanced stage of the disease when so admitted, in the majority of instances the disease terminated in death.

In such cases, as Mr. Holmes remarks, the sloughing, if not checked in time, will extend until all the vulva is involved, and probably the inguinal regions as well; and when this occurs the child has, in most of the cases I have seen, died before the separation of the eschars. In some favorable cases, however, the redness recedes, the tense shining skin around the slough becomes wrinkled and lighter in color, and the sloughs then separate, leaving an irritable sharp edge at first, which, however, soon granulates and heals with wonderfully little deformity. It has never occurred to Holmes, and my own experience is similar, to see a case terminating favorably in which the pudenda were seriously interfered with by the contraction caused by cicatrization after noma.

Treatment.—Our only hope of arresting the progress of gangrenous vulvitis is in the complete destruction of the diseased surface. For that purpose, the patient having been first etherized and the surrounding parts smeared over with vaseline or other protective ointment, the gangrenous surface should be freely swabbed with fuming nitric acid, which more effectually penetrates and destroys the ulcerated surface than can be done with the thermo-cautery sometimes recommended. After this cauterization the parts should be covered with water-dressing, and as soon as the slough separates, if there be any recurrence of the gangrenous appearance, the same application should be repeated. Otherwise the surface involved should then be dressed either with iodoform or with solution of peroxide of hydrogen or carbolic lotion until it heals by graulation.

The constitutional treatment of these cases is only less important than the complete destruction of the phagedænic surface. In all cases the patient's strength must be well supported by a suitable dietary,—peptonized food, good soups, wine, etc. Pain must be allayed by sedatives in doses suitable to the patient's age, and bark with ammonio-citrate or some other preparation of iron administered freely. Or the practitioner may, in addition, try the

effect of chlorate of potassa, from which, when given in combination with muriated tincture of iron and quinine, as in the following formula, I have derived benefit in the treatment of such cases in the Children's Hospital.

R Potassæ chloratis, $\mathfrak{z}\text{i}$;
 Tincturæ ferri mur., $\mathfrak{z}\text{ii}$;
 Quin. chloratis, gr. xxiv ;
 Aquæ, $\mathfrak{z}\text{vj}$.
 M. et fiat mistura.

Sig.—One dessertspoonful in a tablespoonful of sweetened water three or four times daily.

PRURITUS OF THE PUDENDUM, ITS CAUSES AND TREATMENT.

Few of the diseases for which gynæcologists are consulted give rise to greater mental as well as physical annoyance than is occasioned by pruritus of the pudendum, a complaint of which a large number of cases come under observation in the extern department of our hospital. Not only is this affection of interest on account of its comparative frequency, but it is also of importance as a common symptom of diabetes and other equally remote pathological conditions. In such instances, however, the pruritus itself is oftentimes so prominent a feature of the case as to overshadow the other evidences of the disorders from which it may result.

Etiology.—The causes of pruritus are in the first place those of any disease of which it may be symptomatic. Its existence may, however, depend entirely upon local irritation, such as from the non-removal by sufficient ablutions of the acrid secretions of the vulval sebaceous glands. It commonly occurs as one of the symptoms of acute vulvitis, or it may arise from local prurigo and eczema. In some women pruritus is a constant and most distressing accompaniment of pregnancy. In other instances its development is consequent on the local hyperæmia which ushers in the earlier catamenial periods or which attends the menopause.

Symptoms.—In such cases the patient complains of a persistent sense of local tingling, soreness, and irritation, which ultimately becomes developed into a pathognomonic burning itching. This is intensified by the approach of the catamenial period, is increased by motion or warmth, and is usually most distressing at night, thus

destroying the patient's rest, and in the course of time often giving rise to cerebro-nervous complications and hysterical disorders in all their forms.

In extreme cases the local irritation is so intolerable that the patient is irresistibly compelled to exemplify, however unwillingly it may be, the adage, *ubi dolor ibi digitus*, although in so doing she eventually and inevitably increases her suffering. In some few instances the disease appears localized in the sensitive structures about the clitoris, and under such circumstances pruritus may possibly eventuate in nymphomania.

Treatment—In the treatment of this disease our first object must be to ascertain and, if possible, remove its exciting cause. For instance, if the pruritus be consequent on either congestive hypertrophy or cancer of the uterus, or on diabetes, any local treatment must be ineffectual unless we also cure the first or can palliate the latter of these frequent causes of pudendal hyperæsthesia. In all cases, however, we must at the same time adopt the topical remedies which experience has shown may be useful in their treatment. For this purpose the value of a solution of cocaine freely brushed over the pudendum, especially when combined with menthol, is unquestionable as a temporary measure of relief. The utility of washing the parts with tar soap, as well as the value and the local application of hot water to diminish the congestion always associated with this disease, are now well recognized, and in these cases the patient may also generally derive immediate, though unfortunately only temporary, benefit from stupeing the parts frequently with boric acid solution at the highest temperature that can be borne. More permanent advantage may be derived from brushing the seat of the pruritus over with glycerin of carbolic acid, or from the application of so-called oleate of chloral, a compound formed of equal parts of camphor, chloral, and oleic acid. In this disease no one remedy acts equally well in all cases, and every one of the applications recommended for its relief usually loses its effect long before the pruritus is cured. Hence we must generally ring the changes on the various formulæ which have been proposed for this purpose. One of the best of these is a strong solution of boric acid or borax with the addition of hydrocyanic acid, and liquor morphiæ in that excellent, though now little known, sedative vehicle the

late Sir James Murray's alkaline solution of camphor. In other instances a tampon of cotton-wool loaded with equal parts of finely-powdered alum and sugar may be introduced within the vulvar orifice, as recommended by Scanzoni; or the affected surfaces may be brushed over with a strong solution of iodoform in glycerin, as suggested by Dr. Goodell, of Philadelphia; or, as advised by Dr. Emmet, after the free application of a forty-grain solution of nitrate of silver, the parts may be dressed with a thin paste of fuller's earth, to which a little glycerin should be added to prevent its drying rapidly, or with an emulsion containing a small quantity of chloroform. In the out-patient department of our hospital the ordinary black-wash is regarded as the most generally useful as well as the cheapest local application available in such cases.

The importance of constitutional remedies in allaying the hyperæsthetic condition under consideration is obvious. Thus, in those instances of pruritus where the disease is connected with diabetes, Dr. Goodell's suggestion—namely, the administration of salicylate of soda in fifteen-grain doses every fourth or sixth hour—may be tried. Finally, it rarely happens that we can dispense with the use of bromide of potassium and other nerve-sedatives in the treatment of this complaint.

Hyperæsthesia of the vulva may also arise from other causes besides pruritus. In conjunction with urethral carunculæ we occasionally meet with a number of highly sensitive red vascular spots and distinct neuromatous papillæ scattered throughout the vulvar mucous membrane, and occasioning acute pain on the least touch or in coitus. These inflamed neuromatous patches are very protracted in their course, usually subsiding in one place only to reappear in another, and may ultimately lead to permanent atresia of the vulval orifice.

Treatment.—Formerly it was generally held that in such cases there could be no possibility of effecting a permanent cure except by the surgical removal of all the neuromatous spots as well as of the more prominent inflamed papillæ. From what we now know, however, of the pathology of this disease, in which there is a peculiar progressive degeneration or atrophy of the mucous membrane passing in succession from one to another part of the affected surface, this so-called radical treatment must be as useless

as its attempt would be difficult and painful. Therefore, in this as in all other forms of vulvar hyperæsthesia, we must be content to rely mainly on the palliative local and general treatment described in speaking of pruritus.

The vulva (by which term we include the different structures surrounding or immediately adjoining the external genital orifice) is, in addition to the diseases just mentioned, liable to be the seat of the various forms of eczema, herpes, and other eruptions. These, however, and the other complaints of the same class by which the pudendal parts are frequently affected follow the same course and require similar treatment as when situated in any other part of the body, and hence need no special consideration in this connection.

LECTURE VI.

DISEASES OF THE CLITORIS AND URETHRA.

GENTLEMEN,—In accordance with what has been already observed in reference to the importance of your studying the gynecological disorders that come before you as nearly as possible in their anatomical order, I shall, before entering on the investigation of utero-ovarian complaints, to which too often exclusive attention is given in such lectures as these, pursue my observations on the no less interesting diseases to which the external female generative parts are specially subject. At present, therefore, we may briefly consider the principal morbid conditions of the clitoris and urethra which are brought under clinical notice in the hospital.

DISEASES OF THE CLITORIS.

The clitoris may be the seat of hypertrophy, either simple or specific, *i.e.*, syphilitic or malignant. The former is occasionally congenital, and may possibly in extreme cases give rise to a question as to the sex of infants so affected. Only two instances of this condition, which affords an explanation of most cases of so-called hermaphroditism, have come under my own observation. These occurred in the practice of the Dublin Lying-in

Hospital, and, as they have been already published, need not be here further referred to.

In some instances hypertrophy of the clitoris is the result of abnormal sexual irritation or stimulation of the diseased part, or may act as the cause of erotic troubles, requiring its removal. Such cases are, however, very rare, and in the course of a tolerably long experience I have only once found it necessary to amputate a clitoris for this reason. Syphilitic and malignant enlargements of the clitoris, more particularly the former, are of much more common occurrence. The symptoms and usual course of the former are well exemplified in the following case, for the particulars of which I am indebted to my friend and colleague Dr. M. A. Boyd.

Eliza —, a widow, aged thirty-eight, without children, and menstruating regularly, was admitted with an ulceration of the leg of long standing, and from the shape of the ulcer and the character of the discharge I concluded the case was one of tertiary syphilitic ulceration. While under treatment she called my attention to a tumor on the external genital organs, from which she had suffered for some years. On making an examination, I found an enormous tumor springing from and continuous with the clitoris, which organ was thickened to the size of the index finger, and formed its pedicle, and from this it branched out into lobes and tuberculated masses with deep fissures between, exactly like a cauliflower in shape. It was of a pale-pink color, and when the pedicle was compressed became of a livid tint; round the labia majora and perineum were several smaller tuberculated growths, and the integument between them had a brawny, greasy appearance. There was continual incontinence of urine, which was a source of great annoyance to the patient, and resulted from displacement and elongation of the meatus due to the great weight and dragging of the tumor; it was dilated to three times its natural size, and the finger could pass through it into the bladder. On closer examination I detected on the legs and body of the patient the remains of a tertiary syphilitic rash. She first noticed the enlargement of the clitoris about five years ago, previous to which she contracted gonorrhœa from her husband, but did not remember having had sore throat or any rash after or before that period. There was a continual thin watery discharge from the fissures be-

tween the lobules of the tumor, and occasionally pruritus of the vulva.

As there could be but one opinion regarding the treatment of the case,—namely, extirpation of the entire mass,—I placed the patient under chloroform, with her knees well drawn up and everted, transfixed the pedicle of the tumor with a harelip-pin, and, carrying a needle armed with a stout silk ligature between it and the base of the pedicle, strangulated it in two segments. I then with one stroke of a scalpel cut away the tumor in front of the needle, which I allowed to remain on the stump. This tumor weighed over six ounces. Not a drop of hemorrhage followed. On the fourth day both needle and ligature came away, and at the end of ten days the raw surface was entirely healed.

DISEASES OF THE URETHRA.

The first of these to be here referred to as among the more troublesome of the minor diseases peculiar to women are *vascular tumors* or *carunculæ*, which are occasionally found about the meatus urinarius, and which often occasion an intensity of suffering entirely out of proportion to their apparent importance. In many instances urethral excrescences, especially when small and concealed from view by the hypertrophied mucous membrane of the part, or situated within the canal, are overlooked in gynecological examinations, and hence the rule should be adopted of making this subject one of special inquiry, and if necessary of examination, in all instances of dysuria in females.

Symptoms.—The earliest symptoms of this complaint are frequent necessity of micturition, accompanied with pain, referred to the meatus. After a time the pain, although always increased by passing water, never completely subsides, and is so intensified by every movement of, or contact with, the parts, that the patient is afraid to move from her bed, or, if married, dreads any attempt at conjugal intercourse. Moreover, lumbar and pelvic pains and a sense of bearing down, even where no prolapsus exists, are often complained of in such cases.

Diagnosis.—The symptoms now described may readily be distinguished from those of cystitis or vesical calculi or from gonorrhœal inflammation of the urethra, to which they are not unlike, by local examination. On separating the labia in a case of

urethral caruncle, you will find a small, exquisitely sensitive, raspberry-like, vascular growth, varying in size from a pea to a

FIG. 28.



Vascular tumor of the meatus (A. Duke).

hazel-nut, which generally bleeds freely when touched, close by the urethral orifice, or projecting from the meatus. In most instances these urethral vascular tumors are pedunculated, growing by a narrow pedicle from the inner surface of the urethra; but occasionally they also occur in the sessile form. In both cases they are true vascular tumors or *nævi*, highly endowed with nerve-filaments, and consist of numerous conge-

ries of small vessels embedded in connective tissue and enveloped by an epithelial covering.

Etiology.—It appears impossible to afford any satisfactory explanation of the common occurrence of these urethral vascular growths. By writers who apparently have derived their knowledge of this disease from mere theory rather than from actual observation, they have been ascribed to high-living, sexual excesses, and gonorrheal and syphilitic infection. According to my experience, however, these causes have nothing whatever to do with the disease in question, which attacks young and old, married and unmarried, fruitful and sterile, the cleanly and the unwashed, with equal frequency.

Treatment.—When pedunculated, a urethral caruncle may be easily cured by merely snipping off, by means of a scissors curved on the flat (Fig. 29), the tumor close to its point of attachment to the urethral mucous membrane, which should then be cauterized with nitric acid. But where the growth is sessile, it is not so readily disposed of, nor is its removal generally synonymous with the cure of the disease, as this has a particular tendency to re-

produce itself. In such cases the vascular excrescence may best be destroyed by seizing it with a small vulsellum or fenestrated

FIG. 29.



forceps and then freely though cautiously (as these growths are extremely friable) drawing it down, so as to form an artificial

FIG. 30.



pedicle, which we should divide with the galvanic wire cautery or, when this is not at hand, with an ordinary knitting-needle heated white in the flame of a candle at the bedside. Before doing this the parts should be freely brushed over with a solution of cocaine.

URETHROCELE.

Cystic dilatation of the lower portion of the urethra, although a somewhat rare condition, is nevertheless met with in a sufficient number of instances to render necessary here a brief reference to the symptoms and treatment. During the present session two cases of this kind have come under observation in our hospital, in both of which the patients had previously to their admission been for a considerable time under treatment elsewhere for persistent incontinence of urine. In these instances, as in others of the same nature, the cause of this trouble was discoverable only by careful vaginal examination in the semi-erect position, when a sacculated dilatation of the posterior urethral wall, situ-

ated about an inch above the meatus and forming a pouch projecting into the vagina, was found. By pressure on this pouch a quantity of urine was expressed through the meatus. The local irritation produced by the presence of that accumulation and its continual leakage from the urethrocele explained the symptoms which had so long rendered the patient's existence miserable.

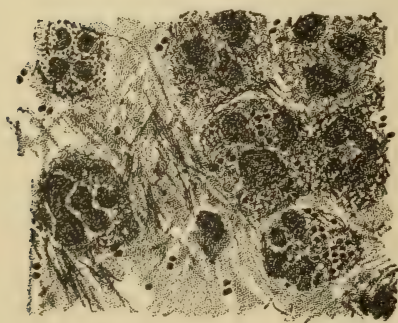
Treatment.—In both these instances, as in some others of a similar nature in which I had the advantage of the assistance of my friend Dr. Duke, this trouble was effectually relieved in the following manner. A large metallic catheter having been passed into the bladder, the urethral pouch was drawn well down into the vagina and firmly clamped; a few carbolized catgut sutures were next passed through the walls of the cyst behind the clamp and then the projecting tissue was completely excised by flat curved scissors, the incision being closed by the interrupted suture. This was allowed to remain until the wound was firmly closed and the integrity of the urethra restored, the urine being meanwhile, of course, voided by the catheter.

URETHRITIS.

Inflammation of the urethra in the female, whether gonorrhœal or non-specific, from extension of vulval inflammation, commences

by a slight tingling sensation along the course of the canal, followed by frequent desire of micturition. These symptoms gradually grow more intense, the scalding increasing and eventually being almost continuous. At the same time, and especially marked in gonorrhœal urethritis, a muco-purulent discharge exudes from the urethra. This, however, can seldom be clearly differen-

FIG. 31.



Micrococci in gonorrhœal pus, $\times 1200$

tiated or localized, as in most cases, the vulvo-vaginal mucous membrane being similarly affected, the patient also suffers from

more or less profuse vulval or vaginal blenorrhagia. By some authorities it is held that if on microscopic examination of the discharge we discover the gonococci described by Neisser and here depicted, that will remove any doubt as to its specific origin. In many instances in actual practice, however, this test is not available. Nor is it always reliable, as this gonococcus is not invariably present in gonorrhœal pus, whilst, as Parrish and Baldy observe, at other times other micro-organisms morphologically identical with gonococci are found which can be distinguished only by an expert; and moreover, as they add, "the disciples of Neisser have by no means satisfactorily proven that the gonococcus is the cause of gonorrhœa." Under these circumstances, therefore, you must in such cases rely on the history and ordinary physical symptoms of the disease for your diagnosis. I need hardly say that in no cases should you be more cautious in giving expression to your opinion than in those under consideration, nor should you under circumstances which, however suspicious, cannot be conclusive, ever brand a female as being infected with gonorrhœal urethritis.

Whatever the origin of the disease may be, in time these symptoms abate, and the disease gradually passes into a chronic or subacute form which often eventuates in structural lesions in the walls of the canal and bladder; or else leads to remote but still graver secondary endo-uterine or tubal consequences and complications, some of which are of more direct obstetric than gynecological interest, and hence need not here be referred to. In our special line of practice, however, the possible consequences of neglected gonorrhœal inflammation are *inter alia* the causation of salpingitis, pyosalpinx, oöphoritis, and other morbid conditions of the uterine appendages, the consideration of which must be reserved for a subsequent lecture.

Treatment.—For therapeutic purposes at least it matters little whether urethritis in women be gonorrhœal or not, as in either case, as Dr. Edis has observed, the line of treatment required is practically identical, and while both forms are readily curable by prompt and suitable measures, in neither can the *minima diligentiae medicinæ* be safely relied on. In gonorrhœal urethritis, for instance, you will certainly not find it advantageous to adopt the view of the candidate for the diploma of the College of Sur-

geons who, having, as the story goes, evinced considerable powers of concealing his knowledge in his answers to previous questions, being as the last chance asked by a not unkindly examiner, the late Mr. Stapleton, how he would treat gonorrhœa, brightened up and promptly replied, "Why, with contempt, of course, sir." When thus treated or ignored, gonorrhœa in women, as before observed, is occasionally the remote cause of the gravest puerperal complications, and still more frequently so of ovarian and tubal diseases.

To prevent the possibility of such untoward consequences, therefore, as well to allay the existing inflammation and pain attending the discharge in every case of urethritis met with in gynæcological practice, the vagina, as well as the urethra, must be separately and carefully syringed out three or four times a day, at first with some sedative injection, and one of the best that can be used for this purpose is a weak solution of extract of Canadian hemlock, the *Abies Canadensis*, in tepid water; then after a few days a well-diluted solution of boro-glycerin, or some more astringent lotion, such as liquor plumbi in the proportion of one to eight parts of water, may be employed in the same manner, and the pus-secreting mucous surfaces kept apart by the introduction of strips of lint saturated with the lotion. If the disease does not speedily yield to these remedies, its gonorrhœal source is more likely. In such cases, whether that be so or not, some one or other of the milder antiseptic or germicide agents, such as eucalyptus oil in the form of a dressing or ointment made with lanoline, or peroxide of hydrogen in a ten-volume solution, or boric acid, or glycerin of carbolic acid, or the older-fashioned and, though more irritating, no less effectual strong solution of nitrate of silver, forty grains to the ounce of water, applied locally, will in all probability cut it short, and may be used, if necessary, without apprehension of subsequent ill effects.

LECTURE VII.

DISEASES OF THE FEMALE BLADDER.

CYSTITIS AND CYSTOCELE.

GENTLEMEN,—The prevalence of cystitis in gynæcological practice is exemplified in the adjoining wards, where you may have noticed that nearly one-third of the beds under my charge are at present occupied by cases of this disease. A brief account of the etiology, symptoms, and treatment of inflammation of the bladder and other vesical complaints in women will, therefore, furnish a suitable subject for to-day's lecture. Not only is cystitis thus frequent among females, but, moreover, in them it not unusually assumes a graver pathological importance than is commonly the case with the same complaint in patients of the opposite sex. As observed in our special line of practice, cystitis is most generally met with as a complication of vulvar or vaginal inflammatory conditions; or is due to mechanical causes, such as uterine displacement, or the unduly protracted pressure of the foetal head during the second stage of labor. It may also result from renal or urethral diseases and calculus, or from the effects of cold or local injuries, and from reflex disturbance. Another frequent cause of this disease is vesical irritation consequent on the long delay in complying with the call of micturition to which women are so generally trained, or which may be occasioned by accidental circumstances.

Symptoms.—Few of the complaints to which women are subject occasion greater suffering and are more difficult to deal with by the measures generally recommended than this. These symptoms are illustrated in the instance of a girl, eighteen years of age, whose case was brought under your notice this morning in St. Angela's Ward. Before being sent up to us she had been under treatment for upward of two years, and when admitted last week was suffering from a constant, teasing, dull, suprapubic pain, extending down the pelvis, and giving rise to distressing tenesmus, as well as almost continual desire to pass water, with little relief on each occasion, micturition being attended with acute

pain, straining, and inability to void the last drops of urine. In this way the poor creature has become the victim of such almost unrelenting torture night and day as to break down her general health, and reduce her from a plump, good-looking girl, as we were assured she was before the disease began, to a wretched, cachectic, careworn, despondent-looking object whose life is a burden to herself. On examination we found the urethral orifice and canal patulous and inflamed, the mucous membrane in a state of hypertrophic ectropium, prolapsing through the gaping meatus. The lining membrane of the bladder was in a similar unhealthy condition, and the organ itself so contracted and irritable that it was with difficulty and the causation of much pain that we were able to inject into it a couple of ounces of tepid water, which was immediately expelled with spasmodic force.

Such, gentlemen, is the history of a typical case of cystitis, of which you will too often meet the counterpart in your future gynecological practice. I may add that I have little doubt, however, that we shall be able to send this patient home within a few weeks completely free from her present sufferings. Before referring to the method by which this result will, I trust, be attained, I must return to the general course of the disease under consideration. In the first stage, then, of the complaint, the urine is commonly turbid and alkaline, and as the vesical irritation develops into structural disorder the water becomes abominably fetid and ammoniacal, as well as scanty, high-colored, and later on generally tinged with blood or laden with muco-purulent matter, which becomes semi-gelatinous on cooling.

Treatment.—I have already observed that, as met with gynecologically, cystitis is not only more frequent, but is also more intractable in its management than is the case with the same disease in men. In the majority of the former instances cystitis occurs as a secondary affection consequent on some vulval, vaginal, or uterine disease, to the removal of which your primary attention must be directed. This being attended to, at the same time the vesical pain and spasmodic irritation may generally be in some measure allayed by clearing out the rectum by enemata of warm water or thin gruel, after which a morphia or a belladonna suppository should be introduced, or a starch injection with from twenty to thirty drops of nepenthe may be thrown up. In most

cases opiates will be required, and one of the best of these is the old-fashioned Dover's powder, given in four-grain doses twice or thrice daily. In all cases absolute rest in bed, with frequently-repeated long-continued warm hip-baths and plenty of diluents, such as barley-water, flaxseed tea, or gum-water, will be essential. In most instances the employment of boric acid, in ten- or fifteen-grain doses three or four times a day, will be found useful in correcting the abnormal state of the urine and allaying vesical irritation.

In chronic cystitis where the diseased mucous membrane secretes the thick gelatinous exudation already alluded to, active local treatment is always indispensable, and relief may often be afforded by washing out the bladder with a weak carbolized or boric-acid injection or with plain warm water. This, however, can be regarded only as an adjunct to the more active local treatment required,—namely, the direct application to the diseased mucous surface of the bladder, after free dilation of the urethra, of a solution of boro-glycerin, or else of glycerin of carbolic acid, which, although it generally causes intense pain for some hours after its use, in milder cases may prove sufficient to effect a cure.

It occasionally happens, however, that these measures fail to relieve the sufferings of acute cystitis. In some cases of this kind we may be obliged to have recourse to the formation of an artificial fistula, through which the urine drains away as rapidly as secreted, thus affording absolute rest to the diseased bladder and giving the patient a reasonable expectation of escape from otherwise probable death from extension of the disease to the kidneys. This plan of treatment, although previously suggested by Dr. Parker, of New York, was first successfully carried out practically for the relief of cystitis in women by Dr. Emmet, on the recommendation of the late Dr. Marion Sims, and since then has been largely adopted by other gynæcologists.

In the very large number of cases of cystitis which I have had occasion to treat I have myself met with comparatively few instances in which the formation of a fistulous opening appeared to be called for. In most of these cases it was successful in its result, and was carried out in accordance with Dr. Emmet's directions, which may be here recapitulated. This operation, although by no means protracted or difficult in its performance,

should, as a rule, be performed under the influence of an anæsthetic, with the patient on the left side, and the anterior wall of the vagina fully exposed by means of a large-sized duck-bill speculum. A sound somewhat abruptly curved an inch and a half from its extremity must be introduced into the bladder and held by an assistant. While the point of this instrument is firmly pressed in the median line against the base of the bladder, a little behind the neck, the projecting tissue on the vaginal surface must be seized with a tenaculum, and divided by a pair of scissors directly on the point of the sound until it can be passed through into the vagina. With the sound remaining in the opening as a guide, one blade of a pair of scissors should be passed into the bladder, and the vesico-vaginal septum be divided backward in the median line. The object in cutting on the point of the sound is to be sure that the bladder and vaginal surface are divided in corresponding incisions, for there is so much mobility of one surface over the other that it is exceedingly difficult to enter the bladder unless the parts are thus transfixed. The median line has been preferred for the location of the incisions, since it is not likely to include any large blood-vessels, unless the opening be extended too near to the cervix uteri or to the neck of the bladder. In theory there is no necessity for an opening larger than that equal to the area of the two ureters; in practice, however, it is found that it must be greater at first than this, from the fact that, in spite of all the care that can be taken to prevent it, a large portion of it will close too soon. Moreover, at first it is a great advantage to have an ample opening through which the accumulated mucus in the bladder may be easily washed out. It is very seldom that much bleeding follows this operation, unless, as just stated, the incision is extended too far in either direction. When a vessel has been divided, the hemorrhage may generally be readily arrested by introducing a silver suture so as to include a fair amount of tissue beyond the angle of the wound and twisting it sufficiently tight.

Various means have been suggested for keeping the artificial opening patulous. In some cases Dr. Emmet formerly used a glass stud or eyelet, half an inch in diameter, and not unlike a spool in shape, which was buttoned into the slit, while the vaginal rim prevented its slipping into the bladder. If used it should be

made from the finest quality of Bohemian glass, for if the least amount of lead or any other impurity exists in the glass it will in a few hours become encrusted with a sabulous deposit from the urine, and increase greatly the irritation. Hence Dr. Emmet at first relied on the careful introduction of the finger night and morning, but after a few days, when the irritation of the parts had somewhat subsided, the urine being at the same time in better condition and the wound beginning to close, he then employed the glass stud. Subsequently, however, he has ceased to employ this, and now keeps the fistula open by simply stitching the vesical and the vaginal mucous membranes together. Some authorities recommend the use of the thermo-cautery for the same purpose.

If resorted to before the disease has advanced so far as to extend to the kidneys, this operation, Dr. Emmet's directions for which I have just cited, is, says that eminent surgeon, "as free from risk as any in minor surgery. Even under more unfavorable circumstances the risk of the operation is justifiable, for by it life may be prolonged and a great degree of comfort obtained in obviating the persistent efforts to empty the bladder." For my own part, however, whilst fully recognizing the advantages that may be derived from Emmet's operation in certain otherwise irremediable instances of cystitis, I am convinced from experience that in this country at least the proportion of cases in which the procedure referred to is required is much smaller than appears to be found in American practice.

Rapid Dilatation and Direct Medication in Cystitis.—Hence I much prefer, in the majority of those cases of chronic cystitis in which any operative treatment is required, to employ, in the first instance at least, full dilatation of the urethra, together with the direct medication of the affected endo-vesical mucous membrane through the then sufficiently patulous canal. By this method, which I have employed for many years with advantage in such cases, may, as I believe, in the majority of instances be obtained the benefits of Emmet's operation, together with those of the topical application to the mucous membrane of the bladder which I thus use. Rapid urethral dilatation has, for a time at least, an effect similar to that of Emmet's operation, in producing such an incontinence of urine as will afford physiological rest and

freedom from irritation to the inflamed endo-vesical structure, but differs from his operation in one very important respect,—namely, that by his operation must be produced an incontinence of urine which endures until the vesico-vaginal fistula may be closed; whilst by the procedure which I generally adopt in such cases the resulting leakage, as a rule, subsides spontaneously within a short time after the full dilatation of the urethra. In some cases, however, and especially where there may be such an extent of structural disease or irritability of the parts affected as to render the use of the dilator liable to set up active inflammation, unquestionably the cystitis may be more effectually and more safely relieved by Emmet's operation than by dilatation. Such cases are somewhat exceptional, and hence, as a general rule, I would recommend you to give the latter method a fair trial before resorting to the former.

For the necessary dilatation of the urethra in these cases, I have generally found the rapid dilator to which my name is attached sufficiently effective, and seldom use any other. It probably matters little what special form of dilator be selected, provided it be cautiously and judiciously employed so as to avoid any injury to either the bladder or the urethra, whilst effecting such an expansion as may sufficiently overcome for some time the contractility of the submucous muscular structure of the urethral walls. Moreover, for the success of my plan of treatment, it is equally essential that immediately after the dilatation of the urethra the endo-vesical membrane should, as before observed, be thoroughly and freely swabbed over with glycerin of carbolic acid, the cotton-wool holder carrying which can be most readily introduced into the bladder through the channel of my dilator. As this procedure is not devoid of pain, it should either be accomplished under ether or be immediately preceded by the topical application of a sufficiently strong solution of cocaine. This method, which may require to be repeated two or three times, at intervals of a week or ten days, seldom fails to afford effectual, and generally permanent, relief in any ordinary case of chronic cystitis, and should in such instances always be combined with the internal administration of boric acid or those other constitutional remedies to which I have already referred.

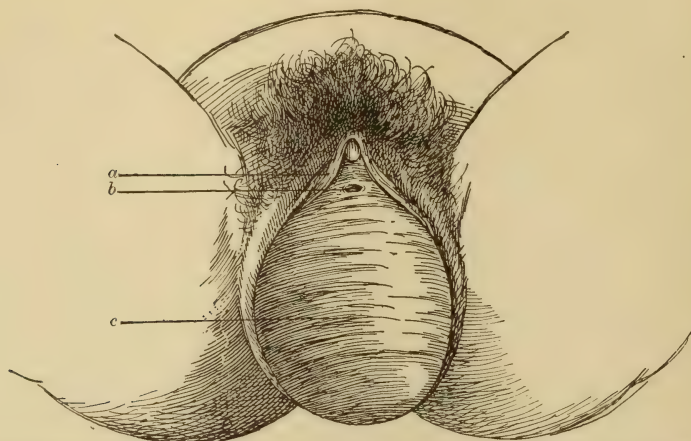
The advantages which I have claimed for rapid dilatation of

the urethra in many cases of severe cystitis, as well as the novelty of this method, have been questioned by Drs. Parrish and Baldy, of Philadelphia, in their able *résumé* of the literature of this subject in a recent volume of the "Annual of Universal Medical Sciences." As to the question of originality, on which they remark that "this method is an old one with Americans, and is well known on this side of the Atlantic at least as far back as 1880," Dr. Goodell says, "The treatment of cystitis by rapid dilatation is somewhat empirical. . . . In the majority of cases dilatation is followed by great relief, often a lasting cure. . . . Candor compels me to mention one objection to this operation, and that is the possibility of permanent incontinence following it." On this point I can only say that my method of treatment for cystitis does not consist in simple dilatation, and that neither when I commenced to employ that method immediately after my appointment to the Mater Misericordiæ Hospital in 1875, nor when I published my first paper on the subject in the Transactions of the Academy of Medicine in Ireland, was I aware that it had ever previously been suggested by Dr. Goodell or any other author, or else I should most willingly have acknowledged his priority. A much more important question, however, is the utility of the procedure referred to, and, much as I respect the high authority of those who, like Drs. Goodell, Skene, Parrish, and Baldy, are opposed to its employment, not less do I value my own clinical experience of a method which I have thus found successful in the treatment of a vast number of cases of a disease which admittedly is often so difficult to cure by other methods. Like all other remedies, rapid dilatation occasionally fails to cure this complaint; but in the larger number of instances the plan in question will, I venture to believe, be found quite as serviceable by all who may adopt it in appropriate cases and with proper care and caution. I have only to add that, whatever other possible ill effects this method may have, that referred to by Dr. Goodell—namely, permanent incontinence of urine—has not followed its employment in my hands.

Cystocele.—In this connection we must refer briefly to prolapse of the bladder, which is generally consequent on procidentia uteri, in which cases together with the anterior vaginal wall the bladder is gradually drawn down until in extreme cases it occasionally, as

shown in the accompanying sketch, ultimately becomes protruded through the external parts. The fuller consideration of this sub-

FIG. 32.



CYSTOCELE (A. Duke).—*a*, nymphæ; *b*, meatus urinarius; *c*, prolapsed bladder, showing vaginal rugæ.

ject may, however, be reserved for a subsequent lecture on the uterine displacements by which a cystocele is usually caused. It will here suffice to observe that this condition may be readily recognized by the presence of a soft, fluctuating, rugæ-surfaced tumor of a pale-red color either at the orifice of the vagina or protruding externally. The diagnosis of cystocele under these circumstances will be completed if the patient at the same time complains of difficulty or pain in micturition, and if on passing the catheter through the urethral canal, the course of which is then deflected downward and backward, the tumor at once becomes diminished in size.

VESICAL CALCULI IN WOMEN.

The frequency, causes, symptoms, and treatment of stone in the bladder being materially modified by the sex of the patient, this subject must be here considered. Within a period of sixteen years only four cases of vesical calculus were diagnosed among upward of nine thousand patients under treatment in the gynæcological department of this hospital, and out of twelve hundred and fifty-eight cases of calculus tabulated from various other sources in only fifty-nine instances did it occur in women. In

other words, the disease is twenty-fold more prevalent in men than it is in women. Thus, some years ago, at a meeting of the Obstetrical Society at which two specimens of stone were exhibited, one being an oxalate-of-lime calculus weighing one hundred and twenty-five grains which I extracted from a lady, and the other an example of phosphate-of-ammonia calculus removed by Dr. Kidd, it was mentioned by that eminent authority that these were the only cases of vesical stone in the female which he had met with in his extensive experience.

This remarkable infrequency of calculus is ascribable to the shortness and dilatibility of the urethra in women and to the non-existence of the prostate gland, which in the opposite sex serves as a retaining dam to prevent the free escape of those crystalline, uræmic, phosphatic, and other deposits by which the nuclei of vesical calculi are generally formed. Women are also by their ordinary avocations and modes of living less exposed than men to those physical hardships and excesses which exercise a repressant effect on the renal functions, and which, by occasioning concentration of the urine, give rise to the deposits referred to.

Symptoms.—As a rule, the presence of stone in the bladder produces greater suffering in female than in male patients, on account of the greater mobility of this organ in the former and its special liability to displacement from abnormal conditions of the uterus and vagina. In such cases there is more or less cystitis or irritability of the bladder, together with a dragging pain extending to the perineum and along the course of the sacro-lumbar nerves down the thighs. This pain is most intense immediately after micturition, when the stone falls forward on the sensitive trigone. Micturition soon becomes frequent and scanty, as well as painful, and the urine grows turbid and sabulous or is tinged with blood. Whenever a stone has long existed in the female bladder, it invariably produces pathological changes in the adjoining parts. Thus, in such cases the urethra is generally found abnormally patulous, and the vesical neck also becomes expanded or sacculated, forming a kind of pouch or cystocele in which the stone is apt to lodge. The bladder, as already observed, becomes extremely sensitive, and is consequently unable to retain as much water as usual, and hence, while the neck may be sacculated, its general structure is thickened and its cavity con-

tracted, giving rise to incontinence of urine. In some exceptional instances, however, the contrary result is occasioned by calculus, the bladder falling into an atonic and widely-dilated condition. But in most cases the vesical mucous membrane is gradually thickened and hypertrophied, and the inflammatory action excited by the presence of the calculus, spreading from the bladder along the ureters, ultimately gives rise to renal disease, granular degeneration of the kidneys, with albuminuria, etc. The intensity of these symptoms is, of course, largely influenced by the size and character of the calculus in each instance, the suffering being obviously most severe with rough sharp-pointed oxalate-of-lime stones, and least so with the larger smooth phosphate-of-ammonia-and-lime calculi.

Diagnosis.—The existence of calculus can be far more easily recognized in the female than in the male bladder, the formation of the urethra in the former rendering its exploration feasible by the finger as well as by the sound. Moreover, large calculi may be detected in women without recourse to either of these methods by careful exploration *per vaginam*, on which the stone may be felt through the intervening septum.

The dilatation of the urethra so as to admit direct examination of the bladder by the finger is, however, indispensable in the diagnosis of some of the strangely-placed articles that occasionally are discovered in this organ and which may either form the nuclei of calculi or be confounded therewith. Thus, Mr. Barton removed from the bladder of a woman under his care in the Adelaide Hospital, Dublin, a calculus the nucleus of which was formed by a hairpin. Sir Benjamin Brodie had in his possession a stone removed from the female bladder, which upon being sawn across was found to contain a hazel-nut in its centre. The late Sir P. Crampton removed from the same receptacle a needle-case, and other surgeons have found toothpicks, hairpins, peas, beans, pebbles, etc. Occasionally a congenital error of development has supplied such a nucleus, as in a case related by Brodie, in which he removed a calculus from the bladder of a young lady which was found to contain a small portion of bone of an irregular shape, and two imperfectly formed human teeth. According to Mr. Barton, the stone which forms in such cases is the triple phosphate or phosphate of lime, or fusible calculus.

This always breaks down in the jaws of the forceps, and hence special care must be taken in the removal of detritus by frequent washing of the bladder.

Treatment of Calculus in Women.—This in the majority of cases consists merely in free dilatation of the urethra and the subsequent extraction of the stone through the canal. This procedure was first described by Gackel, of Ulm, in 1700. It was shortly afterwards taken up by Dr. Broomfield, who advised that the urethra should be dilated by forcing water through the gut of a fowl introduced into the canal. By some of the older writers cases are referred to in which calculi of a size which appears incredible are said to have thus passed through the urethra. I have myself seen a stone weighing an ounce and a half so extracted, but this is nothing to those recorded by Dr. Yellowly, Dr. Hare, and others, who have reported instances in which calculi weighing from three to twelve ounces were withdrawn from the bladder in the way just referred to. It need hardly be observed that the removal of such large calculi by urethral dilatation from the female bladder must necessarily be followed by incontinence of urine for some time after the operation. This, however, is a matter of little consequence, as in the course of a short time, in the few cases which have come under my notice, the sphincter vesicæ and urethral walls resumed their normal condition, and no incontinence of urine remained in a week or ten days at most.

In cases where, from the unusual size or position of the stone or from the condition of the urethra, its removal through this passage cannot be thus effected, we must resort to either lithotomy or lithotrity. The latter operation, being in no wise modified by the sex of the patient, demands no special consideration here. On the other hand, lithotomy in women is a very different and much more facile operation than in men, consisting merely in a simple incision through the vesico-vaginal septum into the base of the bladder, so as to make a transverse opening through which the stone may then be extracted, after which the communication thus established between the bladder and vagina can at any time be dealt with as a vesico-vaginal fistula. The method of making this portal for the removal of a calculus, being identical with that of Emmet's operation for the cure of cystitis, the details of which I have already cited, need not be here further referred to.

LECTURE VIII.

VAGINITIS, VAGINAL TUMORS, AND VAGINISMUS.

GENTLEMEN,—In gynæcological text-books three forms of vaginal inflammation are commonly described,—namely, simple or catarrhal, specific or gonorrhœal, and follicular vaginitis. In actual practice, however, it will generally be found impossible to distinguish between the two first-named, and if unchecked both eventually will run into the third or follicular form of the disease.

Etiology.—As just observed, vaginitis may originate in gonorrhœal infection; or it may result from neglect of cleanliness; from mechanical injuries or local irritation of any kind, and hence is common among newly-married patients; and, lastly, it may be due to the extension of uterine or pelvic inflammation.

Symptoms.—Acute vaginitis first shows itself by a sense of heat and irritation, soon increasing to acute pain in the affected part, the mucous membrane of which then becomes tumefied, dry, hot, and tender, until, subsequently, this congestion relieves itself by profuse leucorrhœal secretions from the inflamed membrane. On examination the calibre of the canal will be found smaller than normal, owing to the congestive tumefaction of its walls, and the vaginal mucous membrane is then highly vascular or almost scarlet in color when freed from the thick, tenacious, and often offensive muco-purulent discharge by which it is coated. After the disease has existed for some time, on removing this discharge the mucous papillæ appear eroded and hypertrophied, and the whole membrane roughened and dotted over with numerous clusters of enlarged mucous follicles.

Chronic vaginitis usually follows neglected or ill-treated acute inflammation of the vaginal mucous membrane; and may endure for an indefinitely protracted period, being the most frequent cause of the chronic leucorrhœal discharge from which our gynæcological patients so commonly suffer. This subacute form of vaginitis with profuse leucorrhœal or muco-purulent discharge is generally connected, whether as cause or effect, with chronic uterine or ovarian disease. The differential diagnosis of gonor-

rhœal and non-specific vaginitis, or elytritis, is frequently a matter of grave importance as well as of much difficulty, and, indeed, in some instances an impossibility, as there is no symptom by which these conditions may be distinguished with absolute certainty. Nor is this difficulty of judgment in such cases by any means altogether removed even should the supposed pathognomonic form of bacteria, or gonococci, be discovered in the discharge, as the specific character of the micro-organisms thus found may possibly be still open to doubt. Hence, as a rule, the diagnosis must be grounded rather on the probabilities and history than on the actual symptoms of the case. Probably every practitioner of any lengthened experience is occasionally consulted, as I have been, in instances where the patient's reputation or domestic happiness is involved in this question. It is hardly necessary to observe that under such circumstances our opinions cannot be too carefully considered or too cautiously expressed.

Complications.—Acute inflammation of the vaginal mucous membrane will not exist long without spreading to the adjacent parts, and, therefore, urethritis, vulvitis, and cervicitis, possibly resulting, as already mentioned, in endo-metritis and its sequences, are commonly associated with this disease. Bubo is stated to be another frequent complication of vaginitis, from the extension of the inflammatory action along the course of the lymphatics to the inguinal glands; this observation, however, applies more to specific or gonorrhœal than to catarrhal vaginitis, in which I have seldom seen any glandular enlargement.

Treatment.—In whichever of the before-described forms elytritis may be present, its treatment is practically the same. In the first or acute inflammatory stage of the disease, all that need be ordered is the frequent use of warm water, weak lead lotion, chamomile tea, dilute solution of fluid extract of Canadian hemlock, or any other soothing vaginal injection, with tepid hip-baths, mild purgatives, low diet, and rest, general and local.

As soon as the acute inflammatory condition of the vaginal mucous membrane has subsided and the leucorrhœal discharge has become well established, we may resort to local astringent applications. Of these, one of the most generally useful is the employment of boric powder, or dry treatment, next to which in efficiency is a tampon saturated with strong solution of nitrate of

silver introduced through the speculum, on the removal of which the tampon should be retained for some little time, so as to bring the expressed caustic solution in contact with the contracting vaginal walls. In more chronic cases I have found a teaspoonful of powdered alum, enveloped in a tampon of absorbent cotton saturated with glycerin, passed up to the cervix, and there left for twenty-four hours, a very effective remedy ; or, for the same purpose, especially in cases of follicular vaginitis, the affected parts may be brushed over with glycerin of carbolic acid. In one instance my assistant, by accident, saturated the cotton with carbolic acid instead of the intended solution of nitrate of silver ; nor was the mistake discovered until the vaginal surface was observed to become whitened and shrivelled up by the acid. The vagina was at once washed out with an alkaline injection, and the patient left the consulting-room without being conscious of the escharotic application that had been used. Some days subsequently a complete cast of the vaginal mucous membrane was thrown off, and on her next visit to the hospital she was found completely cured of vaginitis.

TUMORS OF THE VAGINA.

The vagina is occasionally the seat of fibroid and cystic neoplasms, besides which cancerous growths may also be met with in this situation. The latter, of which we had an instance in a patient who died recently in St. Monica's Ward, seldom, however, commence in the vagina, and hence their consideration may be reserved for a subsequent lecture on malignant disease of the uterus, in which such tumors more commonly originate. Even fibroid tumors of the vagina must be regarded as among the less frequent diseases of women, contrasting in this particular with their common occurrence in the uterus. As a rule, vaginal tumors are pedunculated and comparatively small. Occasionally, however, and especially when originating in the muscular structure of the vagina, they attain considerable size ; and, as has happened in some instances in my wards, by their pressure on the urethra render micturition impossible without the assistance of a catheter. In one remarkable case the vaginal tumor weighed ten pounds ; and Sir James Paget has met with a growth of this nature which protruded beyond the labia, in shape resembling an

enormous pear, and having a diameter of five inches. In another instance a vaginal tumor, closely resembling in size and appearance an inverted uterus four inches in circumference, protruded beyond the vulvar orifice.

Cystic Tumors of the Vagina.—These consist of follicular cysts formed by dilatation of the mucous glands, and may also be included among the rarer diseases of women. Of the few cases of large cystic vaginal tumors which I have seen, the first occurred many years ago, under the care of the late Dr. McClintock, when I was resident in the Rotunda Hospital. In that instance an oblong tumor was found attached to the posterior vaginal wall. This growth was about an inch and a half long, and as thick as a man's index finger. It was pedunculated, semi-transparent, and on being opened gave exit to three or four drachms of transparent gelatinous fluid, after which the cyst, which had occasioned no trouble, collapsed and disappeared. In the second case referred to a fibro-cyst grew from the upper fifth of the anterior wall of the vagina in an elderly unmarried patient, and formed a large tumor that protruded through the vulvar orifice, giving rise to considerable inconvenience, from which she was readily relieved by the removal of the growth. The contents of these cysts may be either a thin limpid serum, or, as is more generally the case, a viscid gelatinous fluid.

Symptoms.—Vaginal tumors, whether fibrous or cystic, seldom occasion any special symptoms excepting those mechanically arising from their bulk. According to McClintock, whose experience of this disease was unrivalled, and to whose memoir on the subject subsequent writers are largely indebted, in this respect they contrast with uterine tumors, especially polypi, which cause more or less functional derangement and constantly give rise to hemorrhages. When vaginal tumors produce local annoyance, this is merely an effect of their bulk, as the result of which the patient may have a sense of weight or bearing down, or some inconvenience be felt in coition, defecation, or micturition. The unexpected appearance of the growth at the vulva has in not a few instances been the first intimation the patient has had of any deviation from the normal condition of these parts; and in a large proportion of cases the tumor has not been discovered until after parturition has set in. It does not seem that the pres-

ence of a vaginal tumor, whether fibrous or cystic, causes any considerable mucous discharge, except in a limited number of instances ; moreover, the occurrence of hemorrhage must be looked upon as an extremely rare accompaniment of such growths.

Diagnosis.—Vaginal tumors may possibly be confounded with uterine polypi, or displacements such as inversion and prolapsus of the uterus, cystocele, rectocele, abscesses bulging into the vagina, and herniæ. The only means of distinguishing these conditions is a careful digital exploration, by which we may readily discover the vaginal attachment of pedunculated fibroids in this situation. In the case of fibro-cystic growths the differential diagnosis will be further facilitated by the use of the aspirator or exploring needle.

Treatment.—In the case of a vaginal fibroid sufficiently large to call for surgical interposition, the growth, if pedunculated, may be removed by torsion if the pedicle be long and thin ; whilst if the attachment be thick or vascular, the steel wire *écraseur* or galvanic cautery may be employed. If the tumor be sessile, however, considering the great vascularity of these parts and the consequent danger of hemorrhage, we had better abstain from any interference until the growth becomes pedunculated, as it probably will if we merely await the usual course of development. In the cystic variety of vaginal tumors we may easily evacuate the contents of the cyst and at the same time effectually prevent its refilling by merely cutting out a portion of the cyst wall and, if necessary, plugging the cavity with carbolized lint or iodoform gauze.

VAGINISMUS.

Excessive sensibility of the vaginal orifice and adjacent parts, especially when associated with such spasmodic contraction of the sphincter vaginæ as to form an impediment to marital intercourse, or dyspareunia, occasionally becomes a matter of considerable gynæcological interest. In such cases the hyperæsthetic condition of the vaginal outlet is evinced on any attempt at local examination, and is most marked about the meatus urinarius, and in the vicinity of the orifice of the vulvo-vaginal glands and fourchette, whence the hymen, if present, projects upward. The morbid condition of which these symptoms are pathognomonic, although

clearly described by some of the older writers, was ignored until its importance was rediscovered and its treatment improved by the late Dr. Marion Sims, who applied to it the name by which it is now known. Although much has since been written on this complaint, its pathology and treatment are still to a large extent *sub judice*.

With regard to the pathology of the form of local hyperæsthesia understood by the term vaginismus, there are almost as many divergent views as there have been writers on the subject. Thus, according to Marion Sims the symptoms of vaginismus are almost always neuromatous, whilst Dr. Alonzo Clarke, who examined the vaginismus hymen frequently, could not find any enlarged nerve-filaments running through it. Mr. Lawson Tait, in a discussion on this subject before the British Gynæcological Society, expressed his regret that such a term as vaginismus had ever been coined. He had made eleven dissections, and found only in one of them a trace of the muscular fibres supposed to produce the affection, which he believes may be due to diseases of the vestibule, of which the most common is serpiginous degeneration of the mucous membrane,—an obstinate disease, ending in atrophic contraction of the vestibule. Sims, whose experience of this disease has never been exceeded, says, “The most perfect examples of vaginismus that I have seen were uncomplicated with inflammation; but I have met with several cases in which there was a redness or erythema at the fourchette. Usually the hymen is thick and voluminous, and, when the finger is forced through it, its free border often feels as resistant as if bound by a fine cord or wire.” According to Dr. Emmet vaginismus is to be regarded purely as a symptom denoting reflex irritation, of which the chief expression is an exaggerated sensitiveness about the hymen and vaginal outlet. As the irritation is transmitted through the sympathetic nerve, the effect is experienced at its terminal branches in the erectile tissue distributed about the entrance to the vagina. It is found only in anæmic, nervous women. Their general condition renders them peculiarly liable to neuralgia, of which the symptom under consideration is but a kindred ailment. The locality is determined as if it were by accident, or by some law of which we are ignorant. “It is an exception,” adds Dr. Emmet, “to find any local exciting

cause ; occasionally there may be some cicatricial tissue about the perineum or neck of the uterus, or local inflammation or disease of the vagina, vulva, meatus, urethra, or vesical neck."

Dr. Graily Hewitt, on the other hand, is of opinion that the essence of the disease is a local alteration or irritation of the nerves at the spot itself ; at the same time he also points out that the condition in question is a hyperæsthesia of the parts, dependent not always on the same cause. It has been described as most commonly present in individuals whose nervous system is generally in an easily excitable state. Dr. Ferguson believed that in cases of "irritable uterus," one of the seats of this neuralgic malady was the vagina itself, this latter being so exquisitely tender as to render intercourse intolerable. In Scanzoni's opinion the disorder especially accompanies anteversions, retroversions, flexions, or actual changes of the uterus itself, and it is not rare in connection with spasmodic affections of the urethra, bladder, or rectum. Sir James Simpson in some instances found true small nodular neuromata under the mucous membrane.

For my own part I think the most rational explanation of the symptoms of vaginismus is to be found in the hysterical temperament of the majority of those thus affected, although in some cases there is also present an abnormal condition of the pudic nerve, one branch of which runs along with the artery to the clitoris, whilst the other, or superficial perineal nerve, is distributed to the perineum and labia, in which its terminal branches ramify freely. This fact in the etiology of the disease, although generally ignored by recent writers, is one the practical importance of which will be seen in connection with the treatment of vaginismus.

Treatment.—It was long since said by Dr. Marion Sims that there is "no disease capable of producing so much unhappiness to both parties of the marriage contract, and I am happy to state that I know of no serious trouble that can be cured so easily, so safely, and so certainly." With the first part of this sentence we must, I think, all agree, but with regard to the latter portion of it I regret to say that my own experience is by no means so satisfactory, as in some instances I have found no little difficulty in dealing with extreme cases of vaginismus by any of the plans of treatment generally recommended. It therefore appears to me

that every case of vaginismus should be treated on its own merits,—that is, with less reference to the name given to the disease than to its special causes and prominent symptoms in each individual instance. As a rule, undue importance is given to the local or operative measures, on which reliance is placed in cases of this kind, whilst the constitutional treatment which is not less necessary in cases of well-marked vaginismus is too generally ignored. For, whilst operative measures directed to the hyperæsthetic structures and adjoining parts—such as the excision of the hymen, division of the pudic nerve, destruction of erythematous and serpiginous patches, dissections out of neuromata, etc.—may be indispensable in certain cases, in quite as many instances they are unnecessary; and from clinical experience I can vouch for the possibility in many cases of relieving the most intense dyspareunia resulting from this cause, so as to enable the patient to fulfil all her duties as a wife and eventually as a mother, without any operation beyond the forcible mechanical expansion of the vaginal canal. Before, however, resorting even to this expedient we should, in the first place, employ the sedative treatment, not only topical but also general, which is indicated in all other local manifestations and consequences of constitutional nervous or hysterical disorders, and which, as I believe, is essential in three-fifths of the cases of vaginismus that come before us, whilst in only two-fifths of them may any surgical or operative measure be found absolutely necessary.

Among the topical palliative remedies that may, conjointly with constitutional nerve-sedatives, be employed with a reasonable hope of advantage in these cases are the bi-daily use of warm baths and vaginal irrigations, the local application of a five-per-cent. solution of hydrochlorate of cocaine or glycerin of carbolic acid, or the introduction of suppositories of cocaine and belladonna. When such palliative measures have been fairly tried without advantage, we may then resort to mechanical dilatation of the vaginal orifice and stretching of the pudic nerve. For this purpose, having first etherized the patient, a large-sized bivalve speculum should be introduced and expanded to its fullest extent. Then a tampon of absorbent cotton large enough to fill the speculum should be soaked in glycerin and passed up to the cervix, its lower end projecting through the external open-

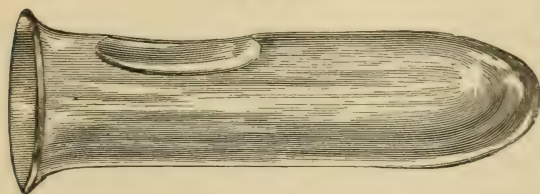
ing of the instrument. This, still fully expanded, should be forcibly drawn out, leaving the central tampon behind in the vagina. It need hardly be observed that this procedure invariably occasions severe pain. At the same time it certainly tears through some of the superficial submucous muscular fibres of the affected part and stretches the terminal vaginal branches of the pudic nerve, thus affording a generally efficient and safe method of overcoming the spasmodic contraction with which we have to deal. Any contraction or hemorrhage following this procedure is sufficiently met by the tampon, which may be retained for twenty-four hours, and after some days, should there be still any continuance of vaginismus, the same method of treatment may be repeated.

In some less frequent cases, however, this method of treatment does not suffice, and in these instances I have with advantage resorted to Sims's operation for vaginismus. This consists first in the removal of the hymen if present, which may be readily dissected out with properly-curved scissors, after which a vaginal glass or vulcanite plug must be worn until the parts are healed. The cicatrix resulting from that operation is then to be divided. For this purpose we must place the patient, fully etherized, in the lithotomy position, pass the index and middle fingers of the left hand into the vagina, separate them laterally, so as to dilate the vagina so widely as to put the fourchette on the stretch, and then with a scalpel make a deep cut through the vaginal tissue on one side of the mesial line, bringing it from above downward and terminating at the raphe of the perineum. This cut forms one side of a Y, which is to be completed by cutting in like manner on the opposite side from above downward, uniting the two incisions at or near the raphe, and prolonging them quite to the perineal integument. Each cut will be about two inches long,—*i.e.*, half an inch or more above the edge of the sphincter, half an inch over its fibres, and an inch from its lower edge to the perineal raphe,—though varying in different subjects according to the development of the parts in each. To perfect the cure it is necessary for the patient to wear for a time a properly-adapted vaginal dilator.

This procedure has been modified and improved by Dr. Emmet, who introduces the speculum under the arch of the pubis, so as to

bring the posterior wall of the vagina into view. The index finger is inserted within the anus, and the sphincter is pressed up against the posterior wall of the vagina. It is then easy to divide with scissors the fibres encircling the vagina on each side, just within the fourchette, and about three-quarters of an inch apart, which does not allow a prolapse of the vaginal wall, whilst it permits of an equal extent of dilatation of the outlet by the glass plug.

FIG. 33.



Sims's cylindrical vaginal dilator.

FIG. 34.



Sims's curved dilator.

The most recent authority on this and other neuroses of the female genital organs,—viz., Dr. Olhausen, of Berlin,—however, does not consider the vaginal incisions just described necessary in the treatment of vaginismus, and relies in such cases on the removal of the hymen, together with the local application of cocaine and the use of dilators. For my own part, I am inclined to believe that even the excision of the hymen is by no means so generally necessary in these cases as some suppose it to be, whilst the two other mentioned more elaborate operations for the cure of this disease should in my opinion be altogether restricted to, what you will probably find in your future practice, the exceptional cases of vaginismus in which the safer and more facile method of treatment by dilatation proves ineffectual; inasmuch as all vaginal operations of the kind described are, as I have learned by experience, extremely liable to be followed by serious hemorrhage.

Although vaginismus is generally an obstacle to pregnancy, it may be well to remind you that we occasionally meet with cases in which even the most intense forms of this disease are not incompatible with the possibility of impregnation. In one instance of dyspareunia thus occasioned, and in which the local hyperæ-

thesia was such as to prevent the patient from submitting to any local treatment for its relief, nevertheless conception occurred, and I was obliged at the time of labor to incise the still unruptured hymen by which delivery was obstructed.

LECTURE IX.

ATRESIA OF THE VAGINA.

GENTLEMEN,—In the two previous lectures impairments of the functional and structural integrity of the vaginal passage by various tumors, as well as by vaginismus, have been described. It now remains for us to consider another of the most important causes of vaginal obstruction,—namely, cicatricial occlusion. At present, however, our clinical experience of retained menstruation, dyspareunia, and impeded delivery consequent on post-partum adhesions of the vaginal walls is, fortunately, more limited than must have been the case in the practice of our professional predecessors, in those good old days when the second stage of labor was allowed to run on until the vital powers were all but completely exhausted, before instrumental assistance was afforded in cases of difficult parturition. Nevertheless, such cases are still occasionally, though rarely, met with.

Of somewhat greater frequency in the causation of this condition in modern practice is the opposite error. In other words, the integrity of the vaginal canal is now more likely to be injured by the application of the forceps before the sufficient natural dilatation of the passage, or by the misdirected force or undue haste with which instrumental delivery may be effected by injudicious practitioners. Another occasional source of cicatricial obstruction or obliteration of the vagina is the abuse of escharotics or instruments intended for the treatment of uterine disease. It may also result from syphilitic disease as well as from phagedænic ulceration or direct injuries to the vulvo-vaginal orifice.

Apart from the foregoing causes, the occurrence of vaginal occlusion after parturition must be considered as extremely exceptional.

The following notes of an instance of this kind under my care in the gynæcological department of the *Mater Misericordiæ* Hospital will probably be sufficient as an exemplification of the general course and treatment of such cases.

E. B., aged thirty-six, was admitted into St. Elizabeth's Ward under the following circumstances: She had been twelve years married, and had given birth to four children, her confinements being always natural and unassisted, and her subsequent convalescence rapid. Six months before admission she had a miscarriage, at the fourth month, caused by over-exertion. This, however, presented no special feature of interest, taking place without much difficulty or hemorrhage, and being speedily recovered from. Up to that time her general health had been excellent, the uterine functions were perfectly normal, and she was able to discharge the ordinary household duties of a small farmer's wife without inconvenience. Two months after the miscarriage she began to complain of obscure pelvic pain and discomfort, which gradually increased and became accompanied with a sense of uterine fulness and bearing-down. There was no return of the menses after the mishap, and, as she always previously had been very regular in this respect, she naturally supposed herself to be again pregnant. In this idea she was confirmed by suffering from sick stomach, loss of appetite, depression of spirits, and inability to pursue her customary employments. As, however, when three months had thus passed these symptoms continued to develop, and as the augmenting pelvic pain and bearing-down were now attended with dysuria and considerable difficulty in defecation, as well as obvious impairment of her general health, she for the first time sought medical advice, and was sent up to the hospital.

The general symptoms and history when admitted were not unlike those of retroversion of the gravid uterus. But on examination it became evident that this was not the case. It was impossible, however, owing to her extremely nervous, hyperæsthetic condition, to make any examination until she was etherized; which was accordingly done by Dr. H. Kennedy, to whose assistance I have been largely indebted in the gynæcological work of the hospital and elsewhere. We then found the pelvic cavity completely occupied by a large, globular, semi-elastic tumor, which pressed backward so as to flatten the rectum against the sacrum,

and extended forward and upward so as to displace the bladder and compress its neck against the pubis. The finger could be introduced only about an inch and a half. On bimanual recto-abdominal examination it was ascertained that there was no displacement of the uterus, which was enlarged to nearly the size of the fourth month of pregnancy.

It being now apparent that we were dealing with a case of retained menstruation from occlusion of the vagina, the patient was placed in lithotomy position, the labia and lower part of the vaginal walls were widely separated by retractors, and the seat of obstruction, which was a fibrous-looking transverse septum tensely stretched across the vagina, was thus exposed. This was punctured by a minute trocar, and a small quantity of retained menstrual fluid drawn off by the aspirator. The fluid being too viscid to pass through the canula, the opening was enlarged so as to admit the point of a finger, and was torn through sufficiently to allow the gradual escape of about eighteen ounces of thick, tarry menstrual fluid. For the next two days this continued to drain away, and probably as much more thus escaped. The cicatricial septum described formed the floor of a large, irregularly-shaped, hour-glass-like cavity, consisting of two unequal segments, the lower being bounded by the enormously distended vaginal walls, and communicating, through the opened and expanded cervical canal, with the uterine cavity, which formed its upper portion.

On the day following the operation she had repeated rigors; her pulse and temperature ran up, the abdomen became tympanitic, there was considerable uterine pain and tenderness, and for the ensuing week she was in no little danger of death from metro-peritonitis, which, however, ultimately subsided under treatment. The opening through the vaginal septum was then cautiously and gradually increased by dilators, and kept patulous until all trace of constriction had disappeared. She was retained under observation until the next menstrual period, which was perfectly normal, had passed; and, being then well, was discharged from hospital.

I would not have occupied so much time with the details of the foregoing case were it not that such complete occlusion of the vagina after parturition as here existed, without any previous history of the usual causes of this occurrence, appears to me of

interest, not only from its comparative infrequency, but still more from the possibility of this condition being an occasional cause of menstrual retention and an obstacle to impregnation or parturition. Moreover, this case serves to illustrate the special risk attending the surgical treatment of cicatricial vaginal obstructions. The latter point is one which should never be lost sight of in such cases; for as was first demonstrated by a distinguished Irish obstetrician, the late Dr. Evory Kennedy, in *The Dublin Quarterly Journal of Medicine* many years ago, the treatment of vaginal occlusion is by no means as safe as it is facile. This observation has been corroborated by more recent writers, who have shown conclusively the risk of dividing these obstructions or adhesions by any cutting instrument, and the comparative safety of digital separation, the mortality following the use of the knife as compared with the surgeon's finger in such cases being almost as three to one.

Congenital Atresia and Absence of the Vagina.—Besides the accidental causes of occlusion of the vagina just referred to, the patency of this canal may also be interfered with by an imperforate state of the hymen as well as by congenital malformation, adhesions, or shortness of this passage, which in some cases may, moreover, be completely absent, the result in such cases being, of course, retention of menstrual blood, if secreted, within the uterine cavity and the sterility of the patient.

The subject, therefore, of vaginal malformation or occlusion, as a cause of sterility and marital troubles as well as of menstrual disorders, is one the practical importance of which is evident. Nevertheless, if in current medical literature be rightly reflected the prevailing tendencies of modern gynæcological opinion, it would seem that, whilst so much attention is devoted to utero-ovarian and tubal affections, the study of the abnormalities of that passage on the integrity of which the due performance of woman's sexual functions so essentially depends is now somewhat unduly neglected. In addition, therefore, to what has been already said, the following account of the literature, ancient and modern, of this subject, as well as of the more practical questions connected with it, is put before you in the hope of inducing more adequate consideration of some of those vaginal abnormal conditions which are of special interest from the difficulties connected

with their successful treatment. Having already discussed the subject of cicatricial occlusion, as well as that of certain other morbid conditions by which whilst the structural integrity of this passage remains intact its functional uses in relation to marital life and impregnation are impaired or destroyed, we must therefore now consider those fortunately rarer, but graver, congenital malformations that are occasionally presented in cases of entire or partial absence of the vagina, by which the patient is not merely incapacitated for marital life, but is also subjected to great physical suffering and danger.

This question was frequently referred to by the older writers. "One of the most remarkable instances of nature's wanderings from her accustomed laws," observed Dr. Davis,¹ "is that which consists in the entire absence of the vagina. Cases of defective vaginal formation are not common, but they are sufficiently numerous to establish the fact of their existence. Most frequently they are found combined with absence of the uterus, as also with that of one or more of its appendages." When in those cases, says Baudelocque, there has been any passage at all, it but rarely exceeded an inch or an inch and a half in length, and has usually terminated in a *cul-de-sac*.² Of this variety of defective development was the case of a porter's wife, related by Morgagni, "in which the external parts of generation were very diminutive, and there was scarcely to be seen a trace of hymen. The entry into the vagina did not equal the dimensions of the middle finger in any direction; the breadth of the vagina, when opened longitudinally and displayed, was scarcely more than two fingers, and there were no rugæ on it. The parietes of the uterus were extremely thin, and the entire organ appeared not to have acquired any increment of bulk since the birth of its subject. There were no ovaries, a deficiency to which may reasonably be ascribed the imperfect development of the vagina and uterus."³

Dr. Blundell, who in many instances, though not in this, was far in advance of the gynæcological knowledge of his day, shared in the ancient doctrine as to the usual absence of uterus and

¹ Davis, *Obstetric Medicine*, vol. ii. p. 24.

² Baudelocque's *Midwifery*, translated by Heath, vol. i. p. 215.

³ Morgagni, *De Sedibus et Causis Morborum*, Epist. 46, Art. xxi., 1760.

general impossibility of any reparative treatment in these cases, and says, "When the closure above (of the vagina) is not partial, but reaches throughout the whole extent of the genital passage, the case scarcely admits of a remedy, nor indeed will the catamenia form." Some years later the same view was supported by a surgeon to whom modern gynæcology owes much of its development,—viz., the late Dr. Marion Sims,—who says "I have seen five cases of congenital absence of the vagina, and in all of them there was no uterus."¹ Dr. Macnaughton Jones observes, "If the vagina is congenitally absent, there is often no uterus as well."² Dr. Bousquet, of Marseilles, not long since recorded a case of this kind in the *Gynæcological Transactions*;³ and in the *American Cyclopædia of Gynæcology* we find the old opinion on this point still sustained, "The whole canal may be absent, a condition which is commonly combined with absence of the uterus, but in other cases a normal uterus is found conjoined with the closed vagina."⁴

The doctrine supported by the authorities just cited would point to the general inadmissibility of reparative treatment in such cases. Fortunately, however, this often-reiterated view is, as I believe, not correct, as a general rule. Since the celebrated case reported more than half a century ago by Amussat⁵ of the successful formation of an artificial vagina, a good many others of the same kind have been from time to time reported in disproof of former views concerning the necessary connection between utero-ovarian and vaginal developmental lesions and the impossibility of reparative treatment in the latter. Even yet, however, the number of such cases successfully treated is by no means large, and hence it may be of interest to record here three additional cases illustrating the treatment of congenital absence of the vagina. The most recent of these occurred in my clinique in the *Mater Misericordiæ Hospital*, where the patient was admitted under the care of the senior surgeon, Mr. Hayes, by whom she was transferred to my wards.

¹ Marion Sims, *Uterine Surgery*, p. 349.

² Macnaughton Jones, *Diseases of Women*, 1891, p. 418.

³ *Transactions of the British Gynæcological Society*, vol. i. p. 218.

⁴ *American System of Gynæcology and Obstetrics*, vol. i. p. 258.

⁵ Amussat, *Gazette Médicale*, December, 1835, p. 785.

The subjoined notes are supplied by my clinical resident, Dr. T. G. Dillon.

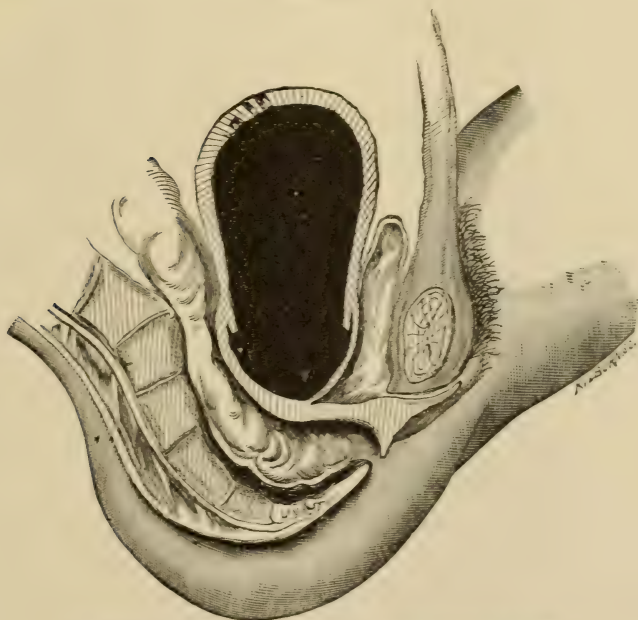
CASE I.—“M. G., aged seventeen, a tenant-farmer's daughter, living near Ballyhaunis, County Roscommon, was admitted to the hospital on the 16th of August. She had never menstruated, and complained of constant pain in her back for the past three years. On palpation before her admission a swelling as large as the foetal head at full term had been discovered in the region of the uterus. This felt hard and movable, and was diagnosed to be a uterine tumor. At a certain period each month this swelling grew larger, and the pain in her back became more severe for a few days, and then both gradually subsided. The mammæ and external genitalia were well developed.

“On the 3d of November a recto-abdominal examination of the case, under chloroform, was made by Dr. More Madden, assisted by Dr. Duke, resulting in the discovery that there was complete atresia vaginæ from a quarter of an inch below the opening of the urethra. Dr. Madden decided on operating for the defect, which he did November 7. The patient being placed in lithotomy position, a transverse incision was made through the vulval *cul-de-sac*, and thence continued upward and backward in what should have been the axis of the vagina by breaking through with the handle of a scalpel the dense cellular interspace between the bladder and rectum, the integrity of which was carefully guarded by the use of the sound in the former and the retention of the operator's index in the latter. In this way a passage nearly six inches in length was cautiously made to the uterine tumor, which was ovoid in shape, and, no trace of the cervix or os tincæ being apparent, an incision was made with a bistoury into the most prominent accessible part of the uterus, through which a large catheter was passed into the cavity, giving exit to about forty ounces of dark-colored tarry blood, that, on examination, proved to be menstrual fluid; at the same time, the tumor in the abdomen began to grow smaller, and on pressing over the region of the uterus the discharge came away more quickly, which showed the tumor to be nothing else than a hæmatometra, or collection of retained menstrual fluid pent up in the uterine cavity. The uterus was then carefully washed out with an antiseptic solution, a drainage-tube introduced into the uterus, and the new vagina plugged first with

iodoform gauze and subsequently with cotton-wool soaked in glycerin of borax. The plug was removed and a fresh one put in twice daily, the uterus and vagina being at the same time douched through the drainage-tube, until the walls of the new vagina had healed over and the temperature subsided to normal.

"On the day after the operation her temperature rose to 104° , her pulse was 140, and, though there was no evidence of metropéritonitis at any time, for some time her life hung in the balance, the symptoms pointing to septicæmia. These, however, gradually yielded to treatment. After the first week the main difficulty consisted in overcoming by repeated dilatation the great tendency

FIG. 35.



Absence of vagina and retained menstrual fluid (Emmet).

to contraction of the new vagina. Ten days after operation a quantity of blood, similar in appearance to the catamenial discharge, was passed through the drainage-tube. The patient is now apparently quite well, and has a vaginal passage which easily admits two fingers. On the 7th of December normal menstruation occurred."

The state of the parts in the foregoing case was almost identical with that depicted by Dr. Emmet in his account of this condition, from which the subjoined illustration is taken.

For the particulars of the following instance of congenital deficiency of the vagina I am indebted to my colleague, Mr. Coppinger, Surgeon to the Mater Misericordiæ Hospital, by whom it was successfully operated on.

CASE II.—“H. K., a thin, delicate-looking, and poorly-developed girl of eighteen, was admitted,” says Dr. Coppinger, “under my care into the surgical wards of the Mater Hospital, May 10, complaining of pain in the back, and of a tumor which was supposed to represent a psoas abscess. A superficial examination and inquiry into the history of the case sufficed, however, to prove that the tumor, which was about the size of an infant’s head and occupied the hypogastric and left lumbar regions, was not an abscess, but a collection of retained menstrual secretion. An examination was now made under ether, when the fact that there was a complete absence of vaginal orifice, and apparently of vagina, was elicited.

“On May 26 the patient was placed in lithotomy position, and, with a finger introduced into the rectum, and a metal male catheter, held by our house-surgeon, Dr. W. A. Morris, in the bladder, an incision was made in the middle line from about half an inch below the urethral orifice downward for about an inch towards the anus. The recto-vesical septum was quite thin, and great care was necessary in order to avoid wounding the rectum on the one hand or the bladder on the other. The incision upward had to be continued for about three inches before some loose areolar tissue was reached, which was tunnelled with the finger until the abdominal tumor on its pelvic aspect could be felt. On pressing the latter from the front of the abdominal wall downward, fluctuation could now be appreciated. Nothing resembling an os uteri could, however, be discovered, so a trocar was thrust upward in the middle line into the centre of the tumor. No fluid at first appeared, but, on passing a large aspirating canula along the same channel and pumping vigorously, some semi-fluid substance, jet black, and resembling tar in consistency and appearance, was evacuated. The canula was now removed, the opening widely dilated by means of Dr. More Madden’s cervical

dilator, and a quantity of weak corrosive sublimate fluid passed into the cavity by means of an irrigator; in this way about a quart of tarry fluid was gradually washed out. A drainage-tube was introduced through the new vaginal tube and new os into the cavity of the uterus, and the patient, after an operation which occupied more than an hour, was sent back to her ward.

"There was no subsequent rise of temperature, but great difficulty was experienced in keeping open the new vaginal passage. With this object the patient was repeatedly etherized and drainage-tubes of various descriptions were used. Indeed, but for the care and attention of Dr. Morris, the operation would, I believe, have failed in its ultimate object. In the end, however, normal menstruation was established, and the girl left the hospital cured. I may mention that I heard from the country to-day (December 17) that she is in good health."

Dr. Duke, of Cheltenham, formerly gynecologist to Stevens' Hospital, has kindly furnished me with the notes of another case, under his care, also illustrating the successful treatment of this condition.

CASE III.—"M. C. was brought to me at Rotunda Hospital by her mother, who informed me that she had never menstruated. As she was only seventeen years of age, I adopted the usual routine treatment,—hot baths, iron and aloes, etc.; but, finding it of no use, I made an examination, and could find no trace of vagina; there was a dimple only where the orifice should be. The patient was poor, and I had no assistant at the operation but her own mother, who, being a sensible woman, did as she was told. I administered ether, tied the patient up, and, having previously determined by a finger in the rectum and a sound in the bladder that a uterus existed, I worked my way with the finger and scalpel up to the cervix uteri, which was elongated and with the characteristic pin-hole os. On making pressure over the uterus, menstrual blood exuded, but only a small quantity. I plugged the newly-made canal with cotton-wool soaked in glycerin and carbolic acid, and after a few days inserted a glass plug. The patient menstruated naturally while the glass plug was being worn; so I removed it. I heard that the girl got good health, but I lost sight of her, as she went to some part of the country with her relatives."

A case of obliteration of the vagina, treated under circumstances that are, fortunately, no longer possible, was reported by Dr. Upshur, of Norfolk, Virginia, in the *Philadelphia Medical Examiner*, many years ago. As that case has not, as far as I am aware, been referred to by any subsequent writer, it may be here briefly quoted.

"Cases of this kind," remarks the reporter, "are fortunately very rare, and not more than six appear to have been reported during the last thirty years. The operation in this case is like one performed by M. Amussat, under similar circumstances, except that Dr. Upshur completed his operation at once, whereas M. Amussat made three or four separate attempts at intervals of three days.

"The subject of this case was a negro girl, aged eighteen, the property [*sic*] of Dr. Southall, of Smithfield. She was admitted into the Norfolk Slave Infirmary October 8, 1852.

"About eighteen months previously she commenced to have symptoms characteristic of the approaching catamenia, recurring every four weeks, but without any discharge from the vagina. A round, well-defined tumor had gradually appeared above the pubes, becoming larger after every return of the menstrual symptoms, and giving the appearance, when she entered the infirmary, of one advanced to the fourth month of pregnancy. Eight months ago she began to suffer from distention, and recently the pressure of the tumor upon the rectum and bladder has given her a great deal of pain.

"Upon examination the finger passed into the vagina only about an inch and a half. On introducing one finger into the rectum and a catheter into the bladder, the finger came in contact with the catheter just behind the terminus of the vagina: nothing appeared to be between them but the coats of the rectum and bladder. The tumor could also be felt from the rectum, sinking low down into the pelvis, and giving decided fluctuation when gently struck.

"The operation was performed on the 15th of October. The bladder and rectum being first evacuated, chloroform was administered, and an assistant retained a catheter in the bladder, so that it could easily be touched with the forefinger of the left hand introduced into the rectum. The operation was commenced by perfo-

rating the centre of the obstruction with an ordinary trocar, which was pushed in to the depth of an inch, and the opening widened by a crucial incision with the scalpel, so as to admit the forefinger of the right hand. The speculum was now withdrawn, the finger introduced, and the obstructing tissue *torn* in every direction. The unyielding nature of the tissue rendered this part of the operation tedious and difficult. The speculum was then again introduced, and was arrested apparently about an inch short of the os tinæ. Pressure being still made upon the tumor, Dr. Upshur carefully divided layer after layer with the scalpel, until he reached the os tinæ, a fact which was immediately made known by an abundant flow of a fluid resembling tar in color and consistency, and perfectly inodorous."

This operation was followed by a severe attack of metro-peritonitis, from which she recovered ; and on the 5th of November Dr. Upshur was able to make an examination, but there was so much contraction as barely to admit the forefinger up to the os tinæ ; the constriction, however, was dilatable, and he introduced a sponge tent, which, in the course of a few hours, had to be removed by the nurse, but was again introduced on the next day, and borne with less inconvenience.

"On the 12th of November catamenia returned, the quantity and color being natural. On the 20th Dr. Upshur found that the contraction of the upper end of the vagina had increased ; it would scarcely permit his forefinger to pass. The sponge tent was continued until she left the house on the 27th.

"On the 27th of April last the patient was again sent to the infirmary. She stated that until two months before she had regularly had her monthly flow. Upon examination it was found to be impossible to reach the os tinæ, although there seemed to be an opening up to it. The speculum was introduced, and an attempt to find the opening made with a probe, but without success. No tumor could be felt from the rectum, and yet there was reason to believe that there was menstrual blood locked up in the cavity of the uterus.

"A second operation was contemplated, but it was deemed expedient to communicate with her master first. Meanwhile, however, the patient was seized with a profuse discharge from the vagina of dark, grumous blood, more fetid than the pus from a

rectal abscess. This continued for five days, with entire relief to all the symptoms. Before any further examination was made, a message was received from Dr. Southall, that her services were required at home, and that he would not have another operation performed yet."

Subsequently this subject was comprehensively discussed by M. Bernutz in the first volume of his work on "Diseases of Women,"¹ which in an abbreviated form was translated by the late Dr. Meadows. A few of M. Bernutz's views and illustrative cases may be here referred to as bearing on the question now under consideration, namely, the operative treatment of congenital malformations and obliterations of the vagina.

"These latter sometimes occupy the whole vagina, as in the case of M. Debrou;² sometimes, on the contrary, they only occupy a limited portion of that canal, and more frequently it is the middle than any other part. . . . Such cases on post-mortem examination all exhibit the same deformity,—viz., dilatation of the tubes, and the escape through them into the peritoneal cavity of the blood contained in the genital organs.

"Cases of congenital obliteration of the vagina," says Sir B. Brodie, "are more common than is supposed. . . . Once a patient consulted me in St. George's Hospital; she was operated on, but would not remain at the hospital, and she died of peritonitis at her own house. In another case treated in the hospital, a short time after puncture of the vagina, symptoms of acute peritonitis set in and she died. At the post-mortem examination we found in the abdomen a great quantity of menstrual fluid; it was impossible to explain the presence of the liquid blood in the abdomen otherwise than by supposing that it had passed from the uterus through the tubes into the peritoneal cavity."³

The following case is recorded by M. Locatelli.⁴

"A girl, aged twenty-six, began when twenty to suffer symptoms of retained menstruation, which subsequently recurred every month. On examination there was found to be complete occlu-

¹ Clinique Médicale sur les Maladies des Femmes, tome i. part 1.

² Obs. de M. Debrou, Gaz. Méd., vol. li. p. 32.

³ Sir B. Brodie, London Medical Gazette, vol. xxvii. p. 810.

⁴ Locatelli, Gaz. Medica di Milano; *vide* l'Encyclographie Belge, 9^e série, tome i. p. 268.

sion of the vagina at about its middle; an abdominal tumor the size of a foetal head was felt over the uterus; fluctuation was felt at the vaginal obstruction; this was incised, and about eight ounces of black coagulated blood mixed with mucus were evacuated; pressure on the tumor favored this evacuation. Peritonitis set in, and death occurred on the second day.

"On making a post-mortem examination, there was found peritonitis with a sero-purulent effusion mixed with a little putrid blood in the left iliac fossa; the uterus was about the size of a fist; the Fallopian tubes were adherent to the ovaries and were distended with black blood. The left tube was the size of a turkey's egg, and had ruptured."

It may not be superfluous to observe that the operative procedure necessary in attempting the formation of an artificial vagina in cases of congenital atresia of this passage is not such as may be safely undertaken without great caution and some special experience by any surgeon. Dr. Emmet says, "All writers agree as to the danger of allowing long retention of menstrual fluid, and are equally in accord as to the risk of life for the woman from any procedure instituted for the purpose of evacuating the contents of the distended organ."¹ In exemplification of this observation I may cite the following record from the practice of an ancient surgeon, whose boldness was apparently ill warranted by his particular skill in this instance. De Haen, by whom this case is narrated, was a distinguished pupil of Boerhaave, and in the early years of the eighteenth century was one of the most eminent practitioners and prolific writers of his day in Vienna, where he published in no less than sixteen volumes his "*Ratio Medendi*," from the third tome of which the following case is worth disinterring, as a lesson and a warning:

"A lady twenty-four years of age, after having tried for eight years such remedies as seemed best calculated for exciting the menstrual discharge, became affected with a large, hard swelling of the abdomen. At length it was discovered that imperforation of the vagina was the sole cause of all the bad symptoms which the patient had long endured. An incision was made, which enabled the operator to introduce his finger into a large cavity,

¹ Emmet's Gynæcology, p. 209.

and which gave vent to a considerable quantity of blood. It was thought that an opening had been made into the vagina; but, the patient having died three days afterwards, it was seen that a mistake had been made, as the cavity, in which the finger had been introduced, was that of the bladder. The vagina was closed below by a substance one inch in diameter and half an inch thick. The upper part of this passage, the uterus, and the Fallopian tubes were exceedingly enlarged, and filled with a dark-brown, sanious fluid. A similar fluid was found extravasated in the abdomen, through a rupture which had taken place in the Fallopian tube. The ovaries were in the natural state.”¹

It should be here observed that the fatal event in De Haen’s case might not, perhaps, be altogether ascribed to his unfortunate operation, inasmuch as a similar result has frequently followed successful attempts to relieve hæmatometra, an operation which is occasionally succeeded by intra-peritoneal hemorrhage. This is due to the contractions of the uterus, set up by the evacuation of the fluid, continuing and forcing the blood contained in the Fallopian tubes into the peritoneal cavity.

The risk, in operating in such cases with cutting instruments in the interspace between the bladder and the rectum, of wounding either one or the other, as in De Haen’s case, was referred to by Bernutz “by way of warning against the employment of the knife in those cases, instead of using the finger,” as in the case related by Amussat. “The difference,” he says, “in the relative mortality of these two proceedings has induced me to separate cases of congenital absence of the vagina, requiring the process of separating the parts by means of the finger, from other cases of fibrous obliteration, congenital or acquired, in early life, for which the knife alone must be resorted to, although it is always under circumstances of extreme danger.”

It should, moreover, be observed that in several instances in which no operation was attempted death resulted, from rupture of the distended Fallopian tubes or of the uterus itself, and consequent extraperitoneal extravasation, leading to fatal peritonitis or septicæmia, as in the following instance.

R. S., aged eighteen, was *in articulo mortis* when seen first by

¹ De Haen, op. cit., Part vi., vol. iii. p. 32.

Dr. Munck, February 24. For eighteen months she had suffered symptoms indicating the accession of menstruation, but without any results: these symptoms recurred periodically with increasing severity. After nine months a tumor appeared in the abdomen; it was very tender on pressure. On February 20 she felt something give way, and the abdominal tumor disappeared. Severe pain followed, attended by a good deal of febrile disturbance; a blister was applied and a saline aperient administered, but she died in three days.

Post-mortem Examination.—On opening the abdomen, twelve or fourteen ounces of thick, reddish fluid were seen; the peritoneum was highly congested, and traces of lymph were evident. The uterus was large but soft, and contained four or five ounces of fluid like that in the abdomen. The Fallopian tubes were enormously distended, the free extremity of the right being closed, and a rupture of about three lines in extent was seen, forming a free communication between the uterus and the cavity of the peritoneum through which the fluid had escaped. The vagina was closed by a firm cartilaginous membrane.¹

Subsequently Dr. Gosselin reported a case of absence of the vagina, with retention of menstrual blood; an artificial vagina was made and a large quantity of fluid evacuated. The patient died on the fifth day. More chocolate-colored liquid was found in the abdomen, with signs of recent peritonitis. A tube had ruptured, giving exit to fluid into the abdomen.

Cases such as these are, I think, well deserving of consideration in illustration of two points of great practical interest. The first is the importance of an early diagnosis in such cases, so as to anticipate and prevent the occurrence of hæmatometra to an extent that might lead to the rupture of the distended uterus or tubes. The second is the paramount necessity of operative interference, to secure the permanent patency of a sufficient passage for the free external escape of the menstrual fluid, and thus obviate its possible intra-peritoneal extravasation through the Fallopian tubes.

In the formation of an artificial vaginal passage it requires considerable caution, as already observed, whilst dissecting our way

¹ Munck, London Medical Gazette, vol. xxvii. p. 867; and Bernutz, *op. cit.*

through the cellular tissue between the rectum and the bladder, to avoid injuring one or the other of these parts. Nor is it by any means always easy either then to strike the cervical portion of the distended and globular uterus, or subsequently to maintain the permanency of the new canal.

Bearing in mind the occasional absence or imperfect development of the uterus and its appendages in cases of congenital deficiency of the vagina, as well as the risks of its attempted artificial formation by operation, it is hardly necessary to add that this should never be resorted to without previous evidence from physical examination of the existence of those organs, nor without the occurrence of symptoms of impeded or retained menstruation.

The *pros* and *cons* with regard to operative interference in these cases have been tersely put by Dr. Graily Hewitt. "There are," he says, "two classes of cases to be dealt with : 1, those in which the absence of the vagina is accompanied with signs of menstrual retention ; and, 2, those in which no signs of menstrual retention are present. This division is a practical one, for in the first class of cases operative measures are generally called for, while in the second this is not usually, or at all events necessarily, the case."¹

In the former by a properly conducted recto-vesical examination, the introduction of the sound in the latter and of the finger in the former, we may readily, I think, ascertain the extent of the vaginal malformation or imperfection ; whilst the condition of the uterus and its appendages can in like manner be exactly mapped out under chloroform by a conjoint recto-abdominal bimanual exploration ; the result of which will be further elucidated by the history of the case, by the occurrence of menstrual molimina, and by the development of the external sexual apparatus and the mammæ. If these all point to the existence of hæmatometra dependent on the non-development or obliteration of the vaginal passage, there can be no question as to the necessity of operative interference. The mere existence, however, of the womb itself is not *per se*, in my mind, sufficient reason for operative intervention in any case of congenital absence of the vagina, unless, as previously observed, we have in addition evidence of the menstrual secretion and of its retention in the

¹ Graily Hewitt, *Diseases of Women*, 3d ed., p. 681.

uterine cavity, where, by the closure of its natural channel of exit, it is pent up and imprisoned, giving rise to the train of symptoms consequent on hæmatometra. In no other case, in my opinion, should the formation of an artificial vagina be ever attempted. On that point I differ from Dr. Edis, who says "that where congenital absence of the vagina interferes with the process of menstruation, coition, or parturition, it will be requisite to resort to operative interference to make a passage and to maintain this in a state of patency."¹ But, on the other hand, I would also venture to express my dissent, to some extent at least, from the too-sweeping conclusions of one of the most recent writers on this subject,—viz, Dr. Florian Krug,²—who has gone so far as to deprecate *in toto* the performance of such operations, on the grounds of their danger and the liability to closure of the new passage, as well as the small importance of forming a copulative canal in these cases. On the latter point, however, I think that there is much to be said in favor of his views.

In connection with what has been said in the commencement of this lecture with reference to the subject of acquired vaginal atresia, or obliteration of the passage as a result of injury or disease, I may here add that these obstructions are of much more common occurrence than is generally thought, and that my experience is entirely in accordance with Spiegelberg's,³ that they most frequently result from previous puerperal endocolpitis. Lastly, what has been already stated with regard to the treatment of absence of the vagina may also be, generally speaking, applied to those other congenital malformations, such as abnormal shortness, partial obliteration, occlusion, or atresia from defective development of the vagina, that occasionally come before us in gynaecological practice, and of which, in the course of a quarter of a century's experience, I have met with some well-marked instances. It occasionally happens, moreover, that the vagina, although sufficiently patulous for menstruation, remains so narrow or infantile in capacity in adult life as to unfit the patient for

¹ Edis, *Diseases of Women*, p. 397.

² *American Gynaecological Transactions*, 1892, vol. xvi. p. 439.

³ Spiegelberg's *Text-Book of Midwifery*, translated by Hurry, vol. ii. p. 138, London, 1888.

marriage. In one of these last-mentioned cases in which I was consulted, this infantile vaginal condition had led to the inception of proceedings for a decree of nullity of marriage; but, as in some other instances that have come under my observation, this cause of marital trouble proved amenable to treatment by gradual dilatation by a series of Hegar's bougies.

LECTURE X.

VAGINAL FISTULÆ.

VESICO-VAGINAL FISTULA.

GENTLEMEN,—Within a comparatively recent period vaginal fistulæ have, by the advance of gynæcological surgery, been rendered amenable to reparative treatment, whilst at the same time, by the improved methods of delivery employed in modern obstetric practice, their occurrence has been rendered less frequent than was formerly the case. The operative procedures by which these lesions, however extensive, can now be generally repaired are, nevertheless, in some instances of exceptional difficulty, and in such cases the condition of a patient who, pending successful treatment, is deprived of all control over the bladder or rectum, and thereby is made loathsome to herself as well as to those about her, and thus unfitted for the ordinary duties and intercourse of life, is perhaps the most pitiable that can befall a woman. The consideration of these untoward accidents and the method of their prevention and cure are therefore matters well deserving of your most earnest attention, which I need make no apology for bringing before you at some length.

To commence, then, with the causes of those fistulæ most commonly met with,—viz., those involving the septum between the bladder and the vagina, it may be observed that the most important of these causes is sloughing of the anterior vaginal wall and neck of the bladder or of the urethra, consequent on undue protraction of the second stage of labor or resulting from mechanical or instrumental injuries during parturition. The former is now less frequent than was the case when, in my lectures on instrumental

delivery in the Rotunda Hospital, I urged it as a reason for earlier recourse to the forceps than was then practised in that institution. "Lacerations, contusions, inflammation, and sloughing of the recto-vaginal or vesico-vaginal septa, are too often the result of the long-continued pressure of the foetal head on the soft parts in cases of protracted labor, and I have seen almost as many deplorable cases of this kind resulting from either ignorance or timidity in the use of the forceps as from meddlesome rashness in too ready recourse to its employment."¹

At present, however, these injuries more frequently result from the abuse of the forceps than, as was formerly the case, from its neglect. Too often the vaginal walls are lacerated by the injudicious or misdirected force with which the foetal head is dragged through the passage before its natural dilatation, or by direct violence in the use of the powerful axis traction forceps.

Vesico-vaginal fistulae are, moreover, sometimes consequent on non-parturient injuries of the vaginal walls from external violence or from the maluse of gynæcological instruments,—*e.g.*, sounds, pessaries, etc., or from the long retention of the latter. They may also be occasioned by the extension of malignant disease from the uterus or vagina, and in some instances come under treatment as the result of operations intended for the cure of cystitis or for the removal of stone.

Symptoms.—These need not be dwelt on, as a persistent incontinence of urine with irritation or excoriations and sabulous incrustations about the vulvar orifice are sufficient evidence to lead to an examination with the duck-bill speculum, by which the existence of a fistulous communication between the bladder and the vagina may be readily discovered in most cases of the kind.

Varieties of Vesico-Vaginal Fistulae.—These openings vary in size from a mere pin-hole in the vesico-vaginal septum to a vast chasm involving the whole base of the bladder and anterior wall of the vagina, or they may be limited to the urethral canal. Most commonly they occur at the neck of the bladder and open into the anterior vaginal *cul-de-sac*. Occasionally they extend through a lacerated cervix into the uterus. Lastly, they may be

¹ Lectures on the Use of the Forceps, by Thomas More Madden, M.D., 2d ed., p. 18.

complicated with rupture of the recto-vaginal septum, thus converting the vaginal canal into a horrible *cloaca*. In the present lecture we shall confine ourselves to the more usual of these forms of vesico-vaginal fistulæ.

Method of Diagnosis.—In such cases our first step must be to ascertain the exact position, extent, and condition of the fistulous opening. This may generally be easily accomplished by a careful local examination with Sims's speculum, aided by passing a sound through the urethra into the bladder and then directing its point backward so as to be projected through the rent. In any case in which there is difficulty in detecting the fistula, the bladder should be injected with milk, which by its escape into the vagina will disclose the exact position and size of the abnormal opening.

The object of operative treatment in vesico-vaginal fistula is, of course, to bring the margins of the rent into a state and position suitable for their union by adhesive inflammation, and to retain them therein until they may be firmly welded together. Few modern operations have been so materially improved in their details and results as that now employed for these purposes, and hence a brief reference to some of the steps by which it has been advanced may not be devoid of interest.

History of the Operation.—The surgical treatment of vaginal fistulæ, whether recto-vaginal or vesico-vaginal, by a method somewhat similar to that now employed, was known as far back as the time of Ambrose Paré, and even before then was to some extent anticipated by earlier writers. Thus, in the first edition of Reynalde's translation of Rhodion's work *De Partu Hominis*, published in London in 1565, we read, "When this mishapp falleth then heal this bracke or wound by sowing both sides of it together agayne with a silken thread as chyrurgions do other wounds." Little, if any, attention, however, seems to have been given to the subject by British surgeons until the time of Smellie, who, in speaking of the treatment of vesico-vaginal fistulæ, tells us that when the edges of the rent "are turned callous we are to pare them off with a curved knife buttoned at the point . . . and if the opening is large to close it with a double stitch, keeping the flexible catheter in the bladder until it is entirely filled up." Smellie had, however, himself no experience of or faith in this procedure, as he merely expresses a hope that it "may not be

found impracticable ;” and his incredulity appears to have affected all succeeding practitioners down to a comparatively recent period. For instance, one of the leading teachers of the Dublin school thirty years ago, Dr. Evory Kennedy, master of the Rotunda Hospital, in the first volume of *The Dublin Journal of Medical Science*, advocating the use of the actual cautery in vesico-vaginal fistulæ, speaks of the operation with scalpel or scissors and sutures as “a hazardous operation, with at least a very questionable chance of success.”

It would be impossible in the limits of this lecture to follow in detail the successive steps by which the modern treatment of vaginal fistula has been brought to its present perfection. We may, however, observe that this may be dated from the successful employment of the twisted suture in a case of vesico-vaginal fistula treated by M. Roux in the Charité Hospital, Paris, upward of half a century ago, and also from the publication in the *Lancet* six years later of Mr. Gosset’s method of closing vaginal fistulæ with silver wire sutures. These were employed by Mr. Gosset in a similar manner and with almost similar success to that long afterwards brought into general use by Marion Sims in America, Baker Brown in England, and Simon in Germany, at about the same time.

Preparatory Treatment.—The success or failure of operations for the cure of vesico-vaginal fistula depends fully as much on the care taken to bring the parts into the most favorable condition possible beforehand as on the skill with which the operation is performed. From Dr. Emmet we learned the paramount importance of the complete removal by hot-water injections of the irritating and offensive phosphatic or sabulous deposits with which the parts in such cases are incrustated, and of the complete healing of any resulting excoriations by topical treatment before operating. In all cases the long-continued use of warm-water injections should be persevered in until local irritation has been removed as far as possible before surgical interposition is attempted. In instances where the rent is very extensive and its edges are thin and unhealthy, we may possibly succeed in producing some amount of contraction and rendering them fitter for the proposed operation by lightly and cautiously touching them beforehand with the thermo-cautery, or by a few applications of

nitrate of silver. At the same time the constitutional condition of the patient, generally broken down in all chronic cases of this kind, should, if possible, be improved by generous nutrition and the free employment of ferruginous tonics.

Having thus prepared our patient for the operation, and selecting a period a few days after the menstrual period, we may, if there be no prevalence of erysipelas or other zymotic disease, proceed to its performance, immediately before which the bowels should be emptied and the vagina washed out by a carbolized injection.

Instruments Required.—The largest vesico-vaginal fistula may generally be closed with the help of a very few instruments,—viz., nothing more than a sharp scalpel or a curved scissors, a tenacu-

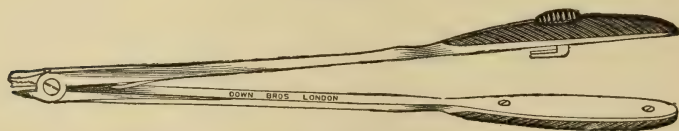
FIG. 36.



Fistula-scissors, curved.

lum, a long dressing-forceps, a couple of suitable needles, some silver wire, and a duck-bill speculum. If, however, a more com-

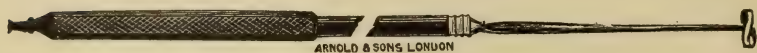
FIG. 37.



Needle-holder.

plete armamentarium be preferred, following Dr. Goodell's advice, we may provide ourselves with a few lance-pointed needles, or,

FIG. 38.

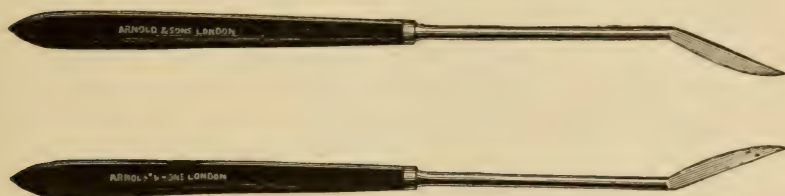


Wire-twister.

which I think preferable, round-pointed needles, and a needle-holder, together with a long not locked forceps, a wire-twister

and adjuster, scalpels of various sizes, a couple of right- and left-angled knives, and also several pairs of differently curved scissors.

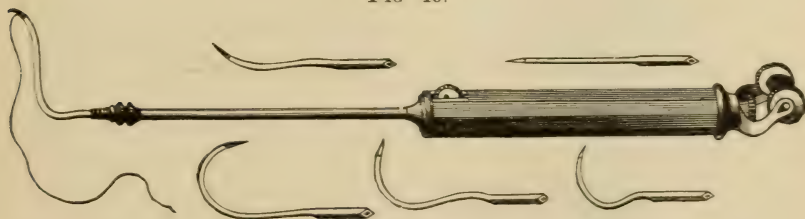
FIG. 39.



Knives for vesico-vaginal fistulæ.

Needles.—The results of vesico-vaginal fistulæ operations are so largely dependent on the method of passing the sutures, and their failure is so often caused by the unsuitable form of needle by which this may be accomplished, that it is necessary to dwell a little on this point. By some surgeons long-handled curved needles, such as Mr. Bryant's, are recommended and may be usefully employed for utero-vesical lacerations and other specially difficult cases. By other writers tubular needles, identical with those used in cleft-palate operations, carrying a wire made to travel through the handle, such as that shown in Fig. 40, are

FIG 40.

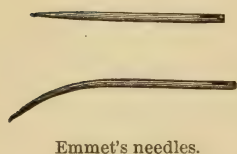


Smith's tubular needle-holder and needles.

also employed in vaginal fistulæ cases. I cannot myself speak from experience of these latter instruments; I would, however, venture to question their general utility in the operations now referred to, and would prefer to rely on the right use of a common sewing-needle than on the employment of a more elaborate mechanical appliance which, however ingenious, might possibly get out of order and fail at the moment when required for use.

In ordinary vaginal fistulæ cases I therefore generally employ, and would recommend you to do likewise, some of those small-sized round needles from one-half to three-quarters of an inch in length, with a slight curve near their point, and thickest at the eyelet, which were first suggested for this purpose by Dr. Emmet.

FIG. 41.



Emmet's needles.

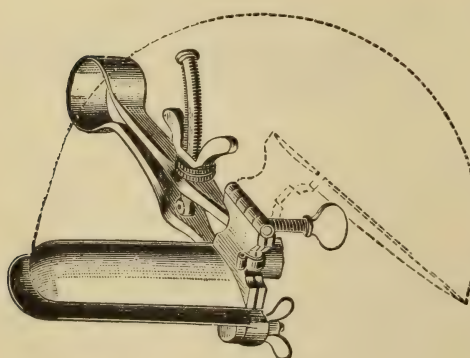
These needles unquestionably possess the advantage he claims for them,—viz., that of making only a punctured wound which will be filled up by the suture; thus contrasting with the still generally used lance or triangular pointed needles, which, having cutting edges, and, as he says, being of many times the diameter of the wire,

frequently cause, in vascular tissue, a troublesome oozing after the sutures have been secured, and sometimes leave small fistulæ behind them.

Position of Patient.—Three positions have been recommended by different authorities, viz., the left lateral (Sims), the dorsal (Goodell), and the prone or knee-elbow position (Bozeman). Of these I myself have generally found the dorsal, or lithotomy position, most suitable.

Mode of Operating.—The patient, being placed in an appropriate position on the couch or table, should be etherized, unless there be some special reason to the contrary. In those exceptional

FIG. 42.



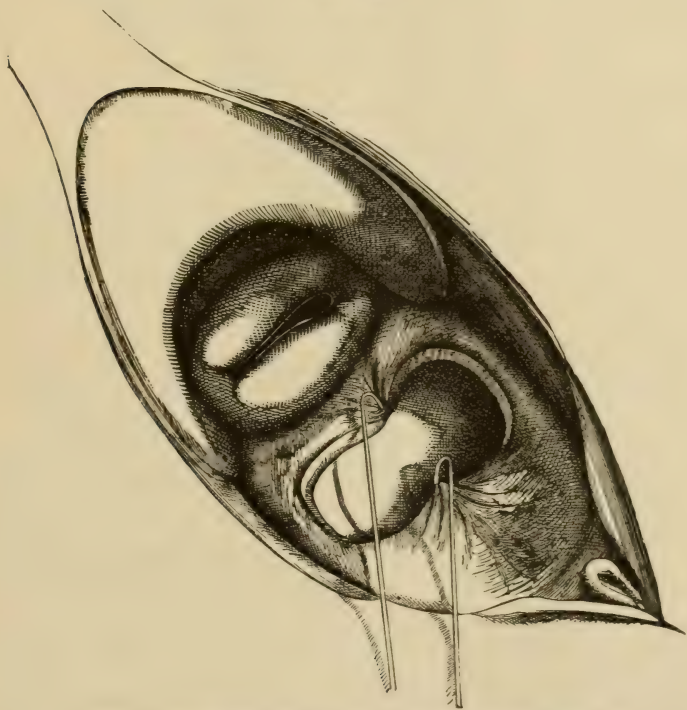
Operating speculum (Duke).

cases in which general anæsthesia is contra-indicated, the parts to be operated on may be repeatedly brushed over with a five per cent. solution of hydrochlorate of cocaine to procure local anæsthesia. Either the ordinary duck-bill or, preferably, Duke's retaining speculum

should be so introduced as to afford a clear view of the fistulous opening, the outline of which will be made more apparent by

injecting a little milk into the bladder. Then the sound should be passed through the urethra, and so directed as to keep back the vesical mucous membrane from prolapsing into the wound. The charge of this instrument must be confided to an assistant, who should stand at the right of the operating table, supporting the sound with one hand above the pubes, whilst the other is stretched over so as to lift up the gluteal region, and thus facili-

FIG. 43.



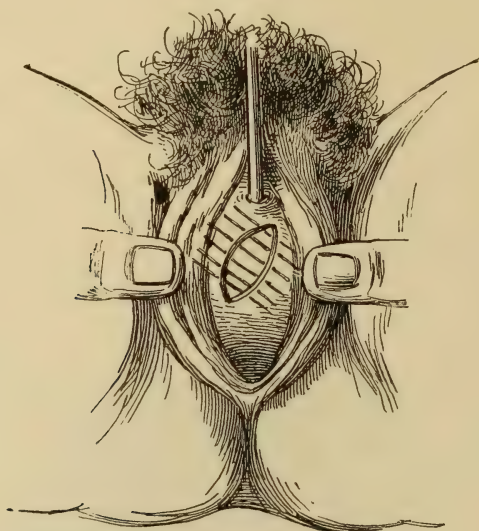
A vesico-vaginal fistula shown with duck-bill speculum (Emmet).

tate the view of the vaginal wall; or Simon's retractor may be used for the same purpose.

These preliminaries being arranged, the operator may set about the denudation of the margin of the fistula, which should be removed in a continuous strip commencing at the lower angle of the rent and proceeding around its circumference. In doing this the thickness of the excised tissue should be bevelled down from

the vaginal to the vesical surface of the edges so as to form a funnel-shaped wound. This is most practicable when the operation is performed with the knife. Nevertheless, as the cicatricial

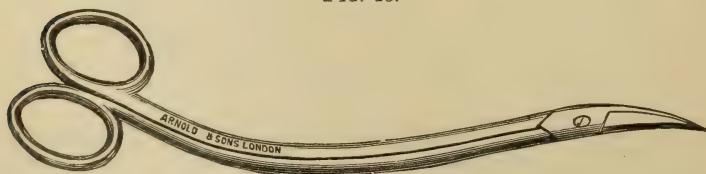
FIG. 44.



Operation for vesico-vaginal fistula (A. D.).

surface can be more quickly and certainly removed by the scissors, I myself generally use either Bozeman's or Emmet's scissors. In several instances I have also thus employed the ingenious instrument designed for this purpose by Dr. Heywood Smith,

FIG. 45.

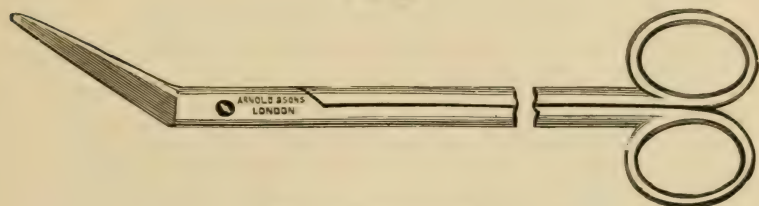


Bozeman's scissors.

by the use of which the difficulties of following the tortuosities of the fistulous opening and completely removing its cicatricial edges are greatly reduced.

The edges being thus vivified and all hemorrhage arrested by the torsion of any small arteries, and by hot water syringing to stop venous oozing, the sutures may be introduced by a round-pointed curved needle set in a proper needle-holder. These sut-

FIG. 46.



Emmet's curved scissors.

ures, which ought to be of pure silver wire, are to be placed at intervals of two or three lines throughout the extent of the wound, commencing at its lowest point, and should be passed in behind the margin, sufficiently deeply to include the edges of the

FIG. 47.

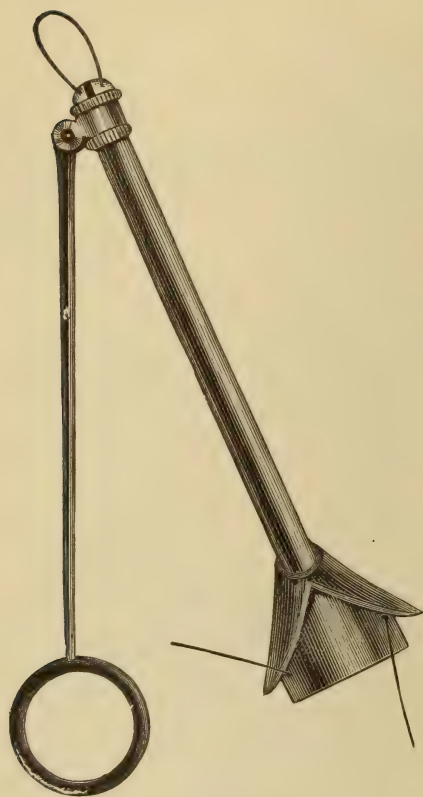


Dr. Heywood Smith's scissors, which can be adjusted at any angle.

vesical mucous membrane before being brought out at a corresponding point on the opposite side. The needle may then be withdrawn, and the sutures confided to the care of an assistant, whose duty it will be to prevent any entanglement of the different stitches. Before tightening these the vagina should be again syringed with hot water. Having ascertained that there is no hemorrhage, or any clot in the bladder, we may proceed to tighten the sutures, commencing with that last introduced. To do this, we should run the wire-adjuster along each of the wires down to the margin of the opening, and then secure them by the use of Duke's or some other wire-twister. Each suture should then be cut off about a quarter of an inch from the surface.

The wound being now closed, the vagina is again carefully washed out with hot carbolic or boric solution, and dusted with

FIG. 48.



Duke's wire-twister.

iodoform, after which a retaining catheter, such as Sims's, Skene's, or Goodman's, is introduced into the bladder, and a large pledget of absorbent cotton soaked in glycerin placed along the whole length of the anterior vaginal wall. The speculum may then be removed, and, the patient's knees, with a pad interposed, being bound together, she may be replaced in bed.

On the care and judgment shown in the after-treatment of these cases the success of the operation depends quite as much as on the skill with which this is performed. Immediately after the operation the bladder should be carefully washed out with warm boric solution, not merely to check any oozing, but still more to break up and

clear away any clots the subsequent decomposition of which if retained might give rise to septicæmia. The sigmoid catheter should be kept in until the wound is completely healed, being of course changed twice in every twenty-four hours. The stitches may be left in for eight or ten days, and the action of the bowels be prevented if necessary by starch and opium injections during this time; nor should the patient be allowed to sit up even then for any purpose, or to leave her bed until the parts have become firmly consolidated, which, even under the most favorable circum-

stances, will seldom be accomplished in less than three weeks after the operation.

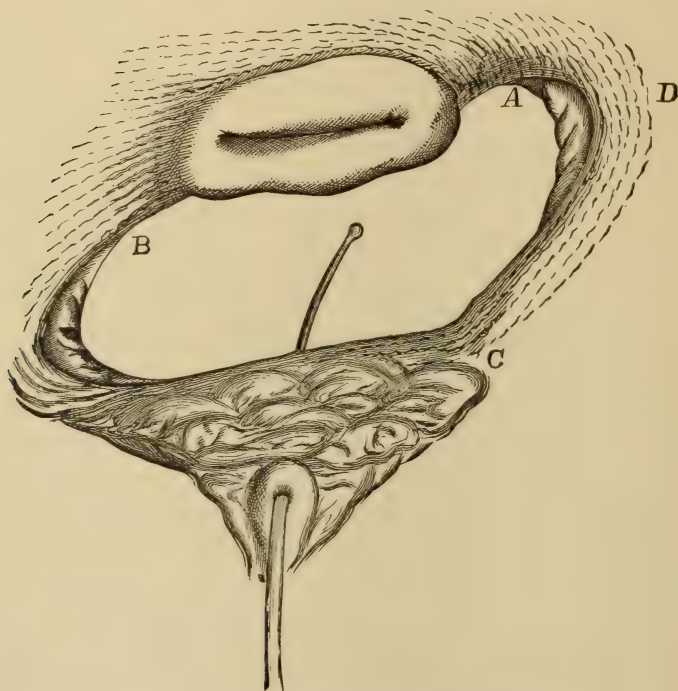
Flap Operation for Fistulæ.—The most important modification of the foregoing operation consists in splitting the edges of the fistula and turning them back so as to form a double depth of approximating surfaces. This improvement, the value of which has only comparatively recently become recognized, was, however, long previously, originally suggested by a talented and not sufficiently appreciated Irish surgeon, the late Mr. Maurice Collis, of the Meath Hospital, Dublin, who so far back as 1861 described the steps of that operation, by which no tissue is removed.

Complications and Varieties of Vesico-Vaginal Fistulæ.—Before leaving this subject we must consider briefly the varieties, consequences, and reparative treatment of some of those more complex and more difficult cases in which, from the nature of the septal rupture or from its position, other operative methods must be resorted to. For instance, in cases in which there is extensive loss of substance from sloughing of the parts, the main trouble consists in keeping together the surfaces included within the sutures until they become firmly united by new connective tissue, and in overcoming or preventing the disturbing influences of the retractile tension of the muscular structures of the vesico-vaginal walls and the tendency to separation therein resulting from their natural mobility. With this view Bozeman's button suture and shield, Simpson's wire splint, Goodell's shotted suture, Brown's bar clamp, and many more recent contrivances have been suggested. As a rule, however, these mechanical supports are unnecessary, if not useless, as their object may be better accomplished by the cautious division of any specially tense folds of the vaginal walls, or by merely nicking these at short intervals with the scalpel to permit their expansion. In some instances, however, I have found that the late Mr. Baker Brown's bar splint seemed to lessen the dragging on the sutures, and to hold the edges of the wound together more effectively than any of the later contrivances designed for the purpose. This instrument is merely a slightly curved small bar of soft metal, pierced with an eyelet in the centre, and having a projection or nipple on its convex surface. To insert it we hold the ends of the wire with the

left hand, and, seizing the nipple of the clamp with a long forceps, pass it back until the edges of the fistula are in perfect contact. We then firmly squeeze the nipple, so as to straighten the clamp and secure the stitch. Each suture is then to be treated in the same way until all are closed.

In cases of extensive or complete destruction of the anterior wall of the vagina, involving the vesico-vaginal septum from the urethra to the base of the bladder (Fig. 49), gynæcologists were

FIG. 49.



Vesico-vaginal fistula, base of bladder destroyed (Emmet).

formerly perforce content to palliate the miserable condition of patients by mechanical contrivances, such as a well-adjusted urinal belt. Recent experience has, however, demonstrated the feasibility of affording relief from the incontinence of urine in such cases, by reparative treatment in some instances, or, where that fails, by the method suggested by the late Professor Simon,

of whose operation, as modified by myself, I have elsewhere published instances in which this object was successfully accomplished by denuding the labial surfaces and then so far closing them as to leave only a small aperture for the passage of urine, which can be controlled by a properly-adjusted spring trap or pad. The general advisability of this operation is another question. It should certainly never be undertaken without full consideration of the possible consequences of converting the vaginal canal into a receptacle for urine, a condition entirely foreign to its physiological purpose, and one liable to be productive of grave ulterior results. In some instances such injuries may, as just stated, be repaired by plastic operations. Too frequently, however, these procedures are unavailing, and under such circumstances the question you will have to decide is whether the patient must be merely treated by palliative measures, or whether it may or may not be expedient or advisable to resort to operation for partial closure of the vulval orifice.

Palliative Treatment.—It still occasionally happens in gynæcological practice that patients suffering from vesico-vaginal fistulæ that might be readily cured by operative treatment, obstinately refuse to submit to the only means by which their condition can be remedied. In such case it is clearly our duty to afford every mitigation to the sufferings of the unfortunate victim of her own timidity or obstinacy as well as of the accident under consideration. For this purpose paramount attention must be given to the patient's general health, as well as to the most perfect local cleanliness possible under the circumstances. The vagina should be syringed out at least twice a day with hot boric solution; all calcareous incrustations must be carefully removed, and any excoriations healed by the treatment already mentioned. Secondly, an attempt must be made to induce some degree of contraction of the fistulous opening by frequently-repeated applications of nitrate of silver to its edges, or by the cautious use of the actual cautery or thermo-cautery in the same way. By the use of these measures, I have seen more than once a large vesico-vaginal fistula gradually narrowed down to a mere pin-hole, so that a considerable degree of retentive power has been regained by the patient.

It is unquestionable, also, that in some cases vesico-vaginal

fistula may possibly be cured spontaneously or without operative interference in the course of time. Of this fact I can vouch from my own experience in two instances, in which patients who in early life had suffered from vaginal fistula, consequent on parturition, had after many years, by the occurrence of senile atresia of the vagina, become entirely freed from the urinary incontinence by which the larger part of their younger and middle age had been rendered miserable. Such cases are, however, very exceptional, and I merely refer to them as among additional illustrations of what I have before spoken of as "the curiosities of medical experience," and not as in any way controverting the expedience of judicious operative treatment in all cases of vesico-vaginal fistula in which this is available.

RECTO-VAGINAL FISTULA.

The last point to which in this connection I have to direct your attention is the occurrence of fistulous communications between the vagina and the rectum. Before doing so, however, I must refer a little more fully to the utility and method of examining the latter passage, in gynæcological practice, to which I have already alluded in the second lecture of the present course.

Diseases of the rectum, although of special interest from our point of view, as being very frequently the cause of symptoms referred to uterine disease, are assigned to the surgical teacher's province, and hence need not be here discussed as their importance demands. In no gynæcological investigation, however, should the condition of the rectum be altogether neglected; and in many cases you will find a careful digital exploration of this passage no less essential than of the vagina, affording as it does the most reliable information obtainable with regard to the condition of those parts of the uterus which, as well as its appendages, are beyond reach *per vaginam*. Moreover, in this way alone will you be able to recognize the existence of those various abnormalities within the rectum which often complicate uterine diseases or by which their symptoms may be simulated. To complete such an examination, a visual inspection, by the rectal speculum, of the parts concerned may also become necessary. Or, if the seat of the disease in the rectum be sufficiently low

down, this may be also accomplished by simple eversion, through the sphincter ani, of the mucous surface of its anterior wall by properly directed pressure on the septum, with the surgeon's finger from the vagina. By digital, and if necessary visual, examination we are thus oftentimes enabled to detect the presence of internal hemorrhoids, fissures, tumors, ulcerations, and other morbid conditions of the rectum, on the curative treatment of which the symptoms that were perhaps ascribed to uterine causes may subside.

Returning now to the subject which must conclude this lecture, recto-vaginal fistula may arise, as in a case brought before you recently, from perforation of the septum by a pelvic abscess, as well as from rectal cancer, injuries, and other causes. In the great majority of instances, however, these accidents are the result of sloughing of the posterior vaginal wall, from long-continued pressure during the second stage of labor or from the misuse of instruments at this time, or from the extension of a perineal laceration through the sphincter. Whatever their extent and position, their symptoms are too obvious to admit of any doubt as to the nature of the case, being the involuntary escape of *fæces* and *flatus*, the cause of which becomes apparent on local examination. When the fistula is small and recent, it may occasionally be closed by mere attention to cleanliness, at the same time that the edges are touched with nitrate of silver or the thermo-cautery. In most instances, however, it can be cured only by an operation similar to that just described for vesico-vaginal fistula,—viz., by denudation of the edges of the aperture and then bringing and maintaining these in apposition by suture. In so doing the sphincter ani, if intact, must always be divided; for, as Mr. Erichsen pointed out, there being generally a considerable loss of substance in these fistulæ, there is necessarily a great tendency to tension on their sides when any attempt is made to draw them together; and it is also of importance that any muscular movement about the parts in the neighborhood of the fistula should be arrested, as this might otherwise break down union after it had taken place between the edges. The sides of the fistula must then be drawn into apposition by sutures introduced and knotted in the same manner as in the operation for vesico-vaginal fistula.

The success of the operation depends greatly on the after-treatment. This should consist in the administration of opium, to prevent the bowels acting for several days,—indeed, until union has taken place between the edges. They may then be moved by means of laxatives and oleaginous enemata carefully given. During the treatment the parts should be disturbed as little as possible, and the urine drawn off every sixth hour. The patient must be kept upon a very moderate diet, and the stitches may be left in for six or eight days, when they must be cut out and carefully removed.

PART II.

DISEASES AND ABNORMALITIES OF THE UTERUS.

LECTURE XI.

LACERATIONS OF THE CERVIX UTERI.

GENTLEMEN,—Having reviewed the various abnormalities to which the female genital parts from the perineum up to the uterus are liable, we have in the next place to consider the principal diseases and accidents by which the latter organ may be affected, and, in so doing, must, in the first instance, refer to injuries or lacerations of the cervix uteri. The pathological importance of these is now generally recognized, although concerning their relative frequency, special consequences, and treatment considerable differences of opinion still exist between many equally eminent British and American gynæcologists. This discrepancy is, however, one which it would be difficult to explain satisfactorily, inasmuch as the prevalence of such injuries is a matter that cannot possibly be influenced by any merely local circumstances, whilst as to treatment it can hardly be questioned that any method of practice generally effectual in New York or Philadelphia should, *cæteris paribus*, have similar results in London or Dublin. For my own part, I am from clinical experience entirely in accord with the teachings of Dr. Emmet with regard to the frequency and result of cervical lacerations, concerning which he says, "Their importance cannot be exaggerated, since at least thirty-two per cent. of uterine ailments amongst those who have borne children are to be attributed to lacerations of the cervix." Hence, as I believe that it is essential for you to have a full knowledge of the causes and consequences as well as the repara-

tive treatment of these accidents, we shall devote the present lecture to this subject.

Early Literature of this Subject.—It may here be observed that the recognition in recent practice of the pathological gravity of cervical lacerations affords another instance of the frequent revival of ancient ideas in modern and more scientific medical literature. Thus, as far back as the middle of the sixteenth century, the common occurrence of these fissures in obstetric practice was commented on by Mauriceau,¹ and shortly afterwards, and more fully, by Chamberlen in his enlarged version of Mauriceau's work,² as well as subsequently by Smellie, Røederer, Denman, Hamilton, and many other of those older obstetric authorities whose works are so unduly neglected by too many of the present followers of what should be regarded as a learned as well as a scientific profession. I shall therefore put before you a few extracts from some of the generally forgotten writers by whom attention was originally called to this subject.

In Smellie's "Cases in Midwifery," "lacerations of the cervix uteri are frequently alluded to as the cause of rigidity of the os, and, consequently, protracted labor in multiparous patients."³

Among the proofs of former delivery, Røederer lays special stress on the cicatrices of cervical lacerations: "Interim præterea labiorum margines fiunt inæquales tamquam incisionibus notati et cicatricibus fuerint."⁴

As ordinary results of difficult labors, lacerations of the neck of the uterus were described upward of a century ago by Denman, who says, that the part which generally gives way in such cases, "whether posterior, which is most common, or anterior, or lateral, is usually near the union of the cervix with the vagina."⁵

Hamilton, in his "Cases in Midwifery," speaking on the same point, says, "The most common seat of laceration is in the cer-

¹ Mauriceau's *Maladies des Femmes Grosses*, etc., Paris, 1654, p. 164.

² Chamberlen's *Diseases of Women with Child*, Englished and enlarged, London, 1672, p. 194.

³ *Cases in Midwifery*, by William Smellie, M.D., vol. iii. p. 64, London, 1752.

⁴ *Elementa Artis Obstetriciæ*, J. Y. Røederer, p. 41, Gottingen, 1753.

⁵ *Introduction to the Practice of Midwifery*, by Thomas Denman, M.D., p. 260, London, 1787.

vix, towards the promontory of the sacrum, and its most ordinary direction is transverse.”¹

Blundell, sixty years ago, to some extent anticipated our present views on this subject: “The broken circumference of the os uteri,” he says, “produced by the pressure of the head during former labors, may be mistaken for ulceration. A rugous os uteri, or the small parts roughened by the glandulæ Nabothi, may be erroneously supposed to be affected with malignant disorganization.”²

About the same time lacerations of the neck of the uterus were described by Davis, of London,³ and in 1835 by Collins, of Dublin, in the first published volume of “Statistical Reports of the Rotunda Lying-in Hospital.” Dr. Montgomery thus alludes to cervical fissuring: “When the os uteri of a woman who has borne children is examined its labia are in general found jagged or notched, and sometimes as if a portion had been torn and remained separated from the rest. I attach great consideration to this state of the part, because it is not likely to be produced by the expulsion of any accidental formation from the cavity of the uterus; and I have never met with it except after childbirth, nor do I believe that was the natural original condition of the uterine orifice.”⁴

In Maunsell’s “Dublin Practice of Midwifery,” it is stated that the usual situation of laceration is “either transversely at the place where the cervix impinges on the promontory of the sacrum, or where the cervix and vagina join.”⁵

These rents and their results were also very clearly described more than thirty years since by Dr. J. H. Bennet, who remarks: “Sometimes the cervix is not so much dilated as burst open, and

¹ Cases in Midwifery, by James Hamilton, Jr., M.D., p. 150, Edinburgh, 1795.

² Principles of Obstetric Medicine, by James Blundell, M.D., p. 752.

³ Principles of Obstetric Medicine, by D. Davis, M.D., vol. ii. p. 1061, London, 1836.

⁴ An Exposition of the Signs of Pregnancy, by W. F. Montgomery, M.D., p. 279, London, 1837.

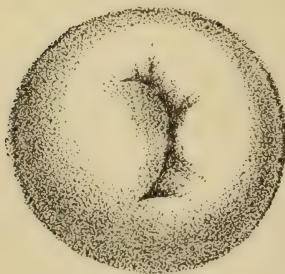
⁵ The Dublin Practice of Midwifery, by H. Maunsell, M.D., fifth edition, edited by Thomas More Madden, Senior Assistant-Physician, Dublin Lying-in Hospital, p. 208, London, 1871.

the lacerations radiating from the centre divided it into segments, which can be traced both with the finger and the eye at a subsequent period. . . . This I have found to occur most frequently in very rapid labors, when the pains are severe and prolonged, and the dilatation of the os uteri takes place very rapidly. Instrumental and difficult labor is very frequently accompanied by laceration of the neck of the uterus, in the absence of any morbid state. . . . In such cases the cervix generally presents deep fissures, caused by the lacerations . . . which are more especially observed when turning has been resorted to, and the hand of the accoucheur has been passed through the os before its full dilatation. . . . These lesions, whether slight or severe, may not heal, and thus a confirmed inflammatory ulceration of the os uteri becomes established.”¹

It would be easy to extend the foregoing references and citations, which are sufficient to show that the frequency and pathological importance of cervical lacerations, although subsequently again lost sight of, were long since known. None of those, however, by whom this accident was formerly described have left any practical suggestion as to its reparative treatment, the credit of which was reserved for Dr. Emmet.

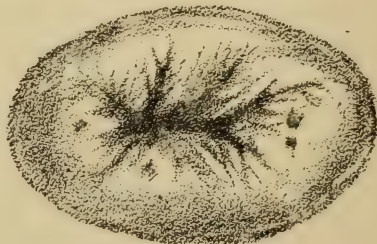
Causation.—With regard to the frequency of these lacerations, there can be no question that they are now more commonly met

FIG. 50.



Ordinary condition of the multiparous os (A. Duke).

FIG. 51.



Stellate laceration of cervix.

with than was the case some years ago. This fact is probably ascribable to the larger proportion of assisted deliveries in recent

¹ Practical Treatise on Inflammation of the Uterus, by J. H. Bennet, M.D., fourth edition, p. 196, London, 1861.

midwifery practice, and, above all, to the employment of the axis traction forceps prematurely, or before the sufficient natural dilatation of the os uteri. For however desirable the application of the forceps may be in suitable cases of delay in the second stage of labor, and although probably few practitioners have employed that instrument more frequently, or advocated its use more strongly, under such circumstances than myself, nevertheless I have also always maintained, and in this connection may repeat, that, as a general rule, and save in those exceptional instances where the necessity for immediate delivery is urgent, any resort to instrumental assistance before that time is bad practice, and likely, among other ill effects, to lead to laceration of the cervix uteri. Be this as it may, and to whatever cause it should be assigned, the fact remains that in this hospital, as elsewhere, the majority of child-bearing patients who present themselves for uterine examination are found to have sustained some degree of cervical laceration varying from a mere fissuring of the os to the most extensive stellate or bifid laceration of the cervix. Even

the former must be regarded as a condition of some immediate pathological importance; whilst the latter lesion is of still greater consequence in its secondary results, and its reparative treatment is often followed by the complete subsidence of chronic pelvic com-

plaints formerly misinterpreted and ascribed to other morbid conditions or displacements of the uterus.

Results.—Before referring to the gynæcological consequences of cervical lacerations we may allude to the primary and later, obstetric effects of these accidents. In the latter point of view rupture of the cervix is of more importance than is generally recognized, being one of the causes of rigidity of the os during subsequent labor, as well as, more immediately, of pelvic cellulitis

FIG. 52.

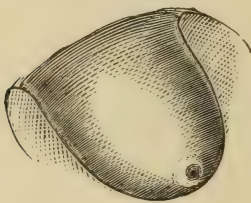


Bifid laceration of cervix (Emmet).

and subinvolution of the uterus. I have myself met with cases in which the os was thus rendered so undilatable that it was found necessary to incise the cicatricial tissues resulting from former lacerations to effect delivery. The practical importance of this cause of difficult labor, although described by some of the older authors referred to, is, as I have just said, hardly sufficiently recognized by recent writers, with the exception of Dr. Emmet, by whom my views on this point have been quoted in terms of approval.¹

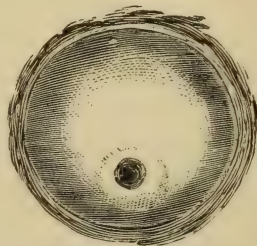
Another occasional complication of cervical laceration from precipitate delivery is vesico-vaginal fistula, of which I have recorded instances where the laceration thus extended from the cervix through the vesico-vaginal septum. As a cause of post-partum hemorrhage, cervical injuries also require a passing notice. In many cases of this kind I have traced hemorrhage after delivery to its source in the vessels of an extensively torn cervix. Long since this form of hemorrhage was described by Gooch, although he failed to recognize its true cause, which was then of far less frequent occurrence than at present. For in Gooch's day accoucheurs were not taught that patient reliance on nature's powers in cases of unobstructed and uncomplicated labor, even if a little tedious, should ever be replaced by too hasty operative interference and violent mechanical force.

FIG. 53.



Conical nulliparous cervix.

FIG. 54.



Normal nulliparous cervix.

The special liability to cervical injuries under these circumstances is self-evident, and their physical evidences are obvious to the veriest tyro who has the opportunity of contrasting the normal nipple-shaped neck of the sterile uterus, slightly projecting into the vagina, its apex intersected by a small transverse dimple

¹ Emmet's Principles and Practice of Gynæcology, third edition, p. 493.

or marked by a minute circular depression indicating the os externum, with the hypertrophied, truncated, fissured cervix of many multiparæ. In the latter case we find the lacerated os uteri irregularly gaping, half concealed by a glairy or muco-purulent discharge, through which the everted endo-cervical mucous membrane may be seen extruding, which condition, as I have observed, too often is the result of an injudicious use of the forceps.

In a medico-legal aspect, and especially as a proof of previous delivery, cervical laceration is also of unquestionable importance, since by no other circumstance can this injury be produced. On the other hand, the non-existence of such cicatrices or fissures is no proof of non-delivery, as the fissuring may have been so slight as to heal within the puerperal period, leaving no obvious traces of the injury.

The connection between laceration of the cervix uteri and many of the chronic disorders of women formerly ascribed to idiopathic subacute inflammation of the uterus, and especially to congestion or ulceration of the cervix, has been clearly established. In such cases the lining mucous membrane is forced down through the gaping edges of the rent as soon as the patient rises from the lying-in bed, giving rise to cervical ectropium. This extruded membrane is a focus of irritation, spreading upward and causing endo-cervicitis, the edges of the rent becoming the seat of erosion, or chronic follicular ulceration, the hardened cicatricial tissue around the rent, after some time, assuming a distinctive character and becoming a veritable neoplasm.

A more immediate result of bilateral cervical laceration is subinvolution, which, as well as pelvic cellulitis, may in many cases be

FIG. 55.



Multiple laceration of cervix (Emmet).

ascribed to this cause. In the first instance the inflammation extending upward from the cervical wound to the body and fundus uteri effectually arrests the natural process of involution. In the

FIG. 57.

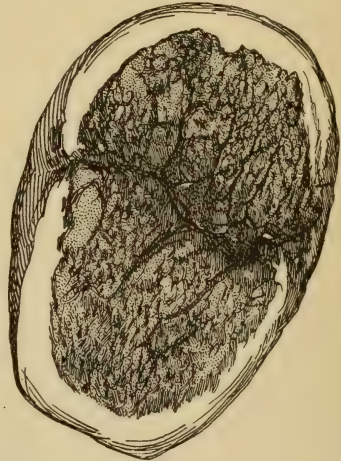
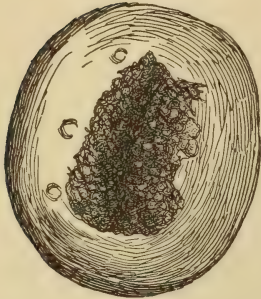


FIG. 56.



Erosion and laceration of cervix (Ruge and Veit).

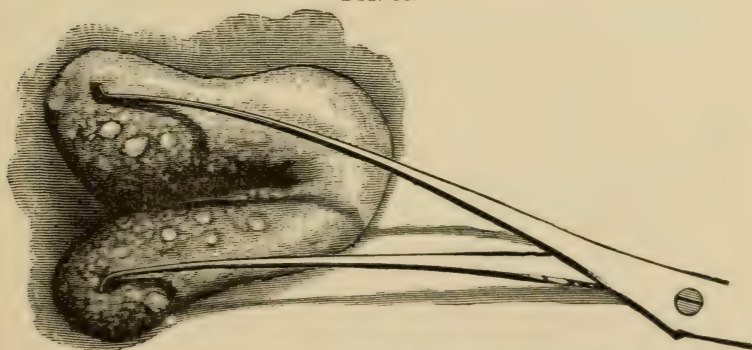
latter it spreads along the ligaments and tubes, giving rise to parametritis and salpingitis or pyo-salpinx, or reaches the ovaries, thus causing ovaritis.

As a cause of uterine flexions and displacements cervical lacerations are of considerable pathological interest, for if the resulting cellulitis so affects either of the suspensory ligaments as to cause its thickening and impair its mobility, the uterus will thereby be thrown out of its normal position, and a constant strain and sense of wearing pelvic pain must be occasioned. These symptoms, I think, cannot, as a rule, be permanently removed by any of the operations for shortening the round ligaments, and may generally be relieved by simply taking off the uterine weight from the overstrained ligaments by the mechanical support of a suitable and well-adjusted Hodge, or by a roller, pessary.

Diagnosis.—The general symptoms of chronic cervical cicatricial ectropium, being undistinguishable from those of the conditions with which they were formerly confounded,—namely, cervicitis, and ulceration of the neck and orifice of the uterus,—need not be here enlarged upon. Nor, indeed, as Dr. Edis has

observed, are even the physical signs of these injuries by any means always so marked as might be imagined. Emmet himself says, "After the parts have been torn, and while they are soft enough to be flattened out by pressure on the floor of the pelvis, there remains no evidence of the laceration, and the true condition frequently cannot be detected either by the sight or by the sense of touch." Thomas also remarks, "It is an entirely fallacious position to assume that an examination just after labor reveals the real state of these parts. Examination later on, towards the end of the period of involution, about the sixth or eighth week, would reveal the true condition of things, and in a great many cases avoid for women lives of suffering and invalidism. It is at this period that every parturient woman should be examined as to the condition of the perineum and cervix uteri." In most cases, however, where it is doubtful whether the morbid condition of the cervix is the result of other disease or of cicatricial ectropium from parturient fissuring, the diagnosis may be cleared up by Dr. Emmet's test. If, therefore, when the parts are exposed by the duck-bill speculum, the edges of the suspected laceration can be brought together by the double tenaculum, and, the everted

FIG. 58.



Cervical laceration shown by double tenaculum (Emmet).

mucous membrane rolling back, the cervix for the moment returns to its normal aspect, there can be no doubt of the existence of laceration caused by childbirth.

In the majority of cases the direction of the fissure is antero-posterior, and it may extend through both walls of the cervix, or, as is more commonly the case, be limited to its anterior aspect.

When thus situated these fissures, if superficial, often occasion very little trouble. In many cases they become healed without any special care during the period of convalescence after delivery. But when, from the abuse of instruments or manual dilatation of the os to expedite delivery or for the removal of a retained placenta, or from the unusual size of the child, or from any other circumstance the cervix is extensively lacerated, either bilaterally or split into a number of sections by multiple or stellate laceration, then the results of the accident obviously become far more serious, leading as they must to one or other of the pathological conditions just described. Under these circumstances, as a rule, some surgical or reparative treatment may probably be found necessary, and we shall therefore now consider how these lesions and their results, primary and remote, should be treated or obviated.

TREATMENT OF LACERATIONS OF THE CERVIX UTERI.

With regard to immediate treatment, it is only necessary to observe that, were it generally possible in such cases to bring the lacerated parts together by sutures immediately after the occurrence of the accident, this would obviously be the most desirable course. Unfortunately, however, in the majority of cases, this is not feasible, nor, indeed, in those few instances in which I have seen it attempted, was it always successful. Hence we may now proceed to consider in the first place those palliative measures by which, if no better result be obtained, we may at least lessen the uterine irritation and general hyperplasia attendant on chronic cervical cicatricial hypertrophy, and by the use of which, in some cases, the necessity for trachelorrhaphy may possibly be removed. By these palliative measures I have more than once been successful in restoring the cervix to a sufficiently healthy state, and have seen all the morbid conditions consequent on these lesions disappear.

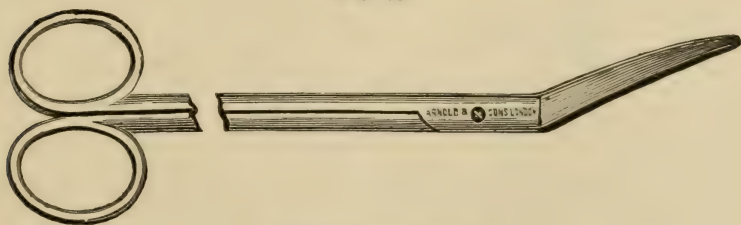
Of all the local applications employed for this purpose perhaps the two most effectual are ichthyol, which may be conveniently applied by means of a tampon smeared with Burroughs & Wellcome's ointment, containing twenty-five per cent. of ichthyol in lanoline, and, secondly, a strong solution of iodine in carbolic acid, or iodized phenol, with which the cicatricial structures may be repeatedly brushed over at short intervals. At the same time

either boric acid or tampons of absorbent cotton saturated in glycerin should be daily introduced, and subsequently, when the desired effect on the cicatrix has been produced, these may be succeeded by warm-water irrigations. Under this treatment in some instances all the symptoms already described subside completely, but more frequently the way is only thus paved for the radical cure of the morbid condition referred to either by Emmet's operation, or else by the amputation of the cervix, to the former of which I shall chiefly confine myself in the present lecture.

Hystero-Trachelorrhaphy.—For some time before resorting to this, in accordance with Dr. Emmet's suggestion, care must be taken to prepare the parts for its performance by warm injections, so as to remove the unhealthy secretions, and by the application of tanno-glycerin tampons to reduce the local congestion which must be relieved before the operation can be attempted with any hope of success. In many cases it will also be necessary to scarify the cervix freely, and subsequently to paint the cervical surface over with tincture of iodine until all evidence of congestion has disappeared. Then, and not till then, we may set about the operation.

The patient, being etherized, is to be placed in the usual left lateral semi-prone position; the cervix, exposed to view by a Sims speculum, should be seized with a strong vulsellum, drawn well

FIG. 59.



Emmet's angular scissors.

down, and steadied by an assistant. The flaps of the lacerated os tinæ are then to be fully separated by a double tenaculum, and freely denuded from one lip to the other by either a knife or curved scissors, care being taken to leave an undenuded portion in the centre so as to preserve the uterine canal. In this denudation the nearest portion, or that which is lowest, should be first

removed, since by doing so the view is less obstructed by blood running over the surface. The portion to be removed is to be

FIG. 60.

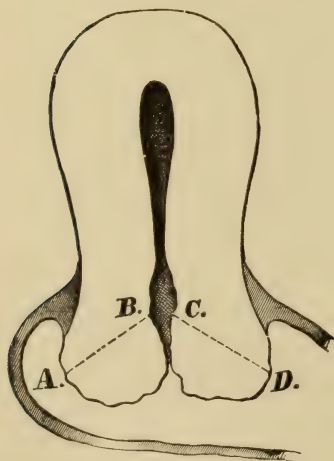


Emmet's curved scissors.

hooked up with a small tenaculum and the strip kept on the stretch while it is being separated, and if possible it should be removed in a single piece from the side of one flap to the other.

Special care must be taken to remove thoroughly all the thickened cicatricial tissue in the angles of the wound, carefully avoiding, if possible, division of

FIG. 61.



Cicatricial hypertrophy after laceration (Emmet).

FIG. 62.

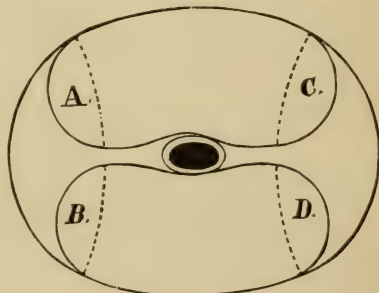


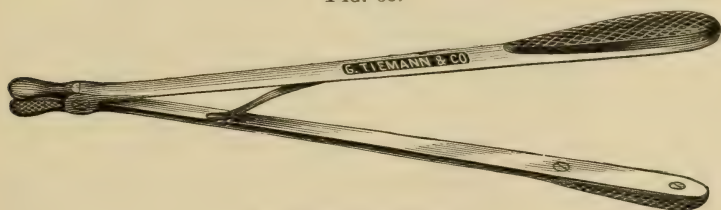
Diagram of surfaces to be denuded (Emmet).

the circular artery. In order to make a wound the edges of which will come fairly together, the opposing irregularly fissured cicatricial surfaces must be boldly and cleanly dissected, so as to remove completely the inflammatory outgrowth, which in many cases may be considered rather as a neoplasm than a mere cicatrix. With regard to the direction and extent of the incisions

by which this is to be effected and the number of sutures by which the wound is to be closed, it would be impossible to lay down any general directions, as these must be regulated by the extent and form of the laceration in each case.

In bringing the vivified surfaces into apposition, especially in old-standing cases of extensive bilateral or stellate laceration, it is generally a matter of some difficulty to pass a suture-needle through the indurated tissues, and it has more than once happened to me to break half a dozen needles before I was able to close the wound, which may be avoided by the use of the special

FIG. 63.



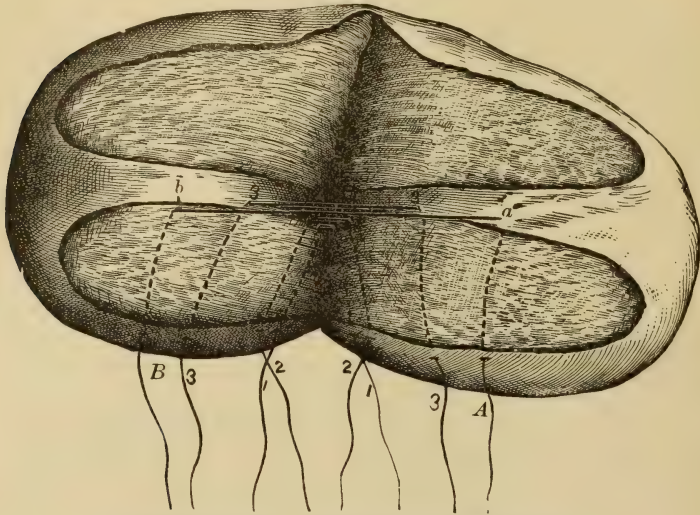
Emmet's needle-holder.

needle and holder suggested by Emmet, or else by the employment of the still more powerful lever needle-carrier designed for hysterio-trachelorrhaphy by Duke, which I have found most efficient for this purpose in many instances.

Considerable difference of opinion exists as to the comparative value of the various sutures that have been used in this operation. Thus, whilst Dr. Emmet insists on the employment of silver wire, Dr. Skene prefers a specially-prepared carbolized silk thread, which he regards as more advantageous for the quick coaptation of the vivified surfaces. Dr. Pallen, on the contrary, in an equally large experience at the New York University College clinic, having used silk and wire alternately, finds that, while he has not had a single failure with wire, he frequently failed with silk sutures, which either cut out or caused suppuration, rendering a second operation necessary. The opposite conclusions thus arrived at by gynæcologists of equal experience are a striking illustration of the first Hippocratic aphorism,—viz., “Experience is fallacious, and judgment difficult.” Practically, however, it really matters little what suture be employed, provided we can secure and retain the perfect coaptation of the cervical wound

until the parts have become firmly united. Following Dr. Emmet's directions, which I have summarized in the foregoing ac-

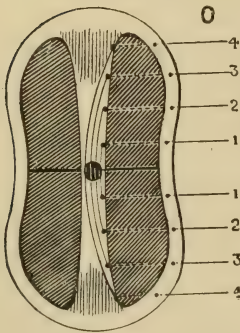
FIG. 64.



Emmet's operation—denudation and sutures (Emmet).

count of his operation, I nearly always use pure silver-wire sutures for this procedure. The first stitch should be introduced at the

FIG. 65.



Lacerated cervix, showing denudation and sutures (after Galabin).

upper part of the wound, and the others at short intervals down to its lower angle, where the wire last introduced should be the first twisted, cut off about a quarter of an inch from the margin, and so proceeding upward with the remaining sutures, in the closure of which Duke's ingenious wire-twister will be found useful.

The vagina should now be well syringed out with hot boric solution, so as to arrest any oozing; a large glycerin tampon applied to the cervix; and, the speculum being removed, the patient may be carried back to bed, where she should remain for at least a fortnight after the operation. For the first three or four days the bladder should be regularly emptied by the catheter. Twenty-four hours after the operation the tampon

should be removed, and the vagina gently syringed out daily with a warm antiseptic injection. As a rule, the sutures may be left undisturbed for at least eight or ten days, and should then be cautiously removed.

With regard to the ultimate results of hysterotrachelorrhaphy, when successful, two questions of some importance present themselves,—viz., first, its influence on the patient's probabilities of pregnancy, and, secondly, as to the power of the repaired cervix to withstand the stress of parturition without fresh rupture should pregnancy again occur.

Neither of these questions can be as satisfactorily answered from the records of hospital practice as might perhaps be expected. Patients when once dismissed from our care as cured seldom come back "to return thanks," and hence it is generally impossible to trace their subsequent history. In many instances pregnancy undoubtedly follows the cure of cervical laceration, but in what proportion it is difficult to say. At any rate, however, whatever little hard cicatricial tissue may remain generally disappears within a year or so after the operation, leaving the cervix apparently in no worse condition than previously.

It must be added that no operation requires that the surgeon's zeal be tempered by discretion more than does this. It has been already pointed out that in some cases even of extensive laceration hysterotrachelorrhaphy may possibly be dispensed with, and in its performance two conditions are especially needful,—viz., on the one hand, the cicatricial tissues must be freely excised, and, on the other, the subsequent integrity of the cervical canal must be carefully maintained.

Finally, it may be observed that the valuable operation now described is occasionally unsuccessful, and in such cases, if the symptoms are sufficiently urgent, we have it in our power to remove their cause by the amputation of the lacerated and hypertrophied cervix.

Amputation of the Cervix as a Substitute for Hysterotrachelorrhaphy.—Before concluding this lecture, I must therefore add a few words with reference to the last-mentioned operation, namely, amputation of the cervix, which may be advantageously resorted to, as I believe, in some instances, in the treatment of cervical lacerations in which hysterotrachelorrhaphy is not applicable,

or in which, as occasionally occurs even under apparently favorable conditions, the conservative operation may fail to accomplish its object.

This view is not in accordance with Dr. Emmet's opinions. But, though none can more fully recognize his great authority on this subject, which he has made so peculiarly his own, yet I cannot agree with him that amputation of the cervix as a remedy for laceration, and "as at present applied, is to a greater extent a malpractice and is attended by more evil consequences than any other procedure now resorted to in this branch of surgery. In fact, I am satisfied from experience that removal of the cervix is rarely called for except in some forms of malignant disease."¹

The removal of the neck of the uterus for hypertrophy or for abnormal elongation is also deprecated by the same eminent surgeon, who, moreover, is equally opposed to the application of the cautery or of caustics to heal a so-called ulceration on the surfaces that may possibly be brought into a healthy condition and united by his operation. "If," in Dr. Emmet's words, "this so-called ulceration or this elongated cervix should prove to be merely a laceration, the sides of which can be brought together and united so that the integrity of the parts will be as perfect as if the accident had never occurred, then to resort to amputation is malpractice." This proposition is self-evident. But in that little *if* lies the entire question; and, highly as I value hystero-trachelorrhaphy, and successful as I have found it in appropriate cases, I must again repeat that in certain cases of extensive stellate lacerations of long standing, with considerable loss of substance, and accompanied with chronic inflammatory conditions of the adjacent structures, or cellulitis, as well as with hypertrophy or hyperplasia of the injured cervix, caused by inflammatory exudations, rather than by any development of the cervical connective tissue, I have found trachelorrhaphy inapplicable or useless. In such a case we can not only afford immediate and effectual relief to an otherwise incurable patient, but also prevent her from the by no means unlikely possibility of becoming a future subject of cervical cancer, by the amputation of the mutilated and diseased cervix. Moreover, this operation, according to my experience, is fully justifiable in some

¹ Emmet, *op. cit.*, 497.

cases of non-traumatic hyperplasia and chronic parenchymatous cervicitis, especially in patients who are hereditarily predisposed to malignant disease; as well as in some instances of cancer of the cervix, either as a curative measure in its earliest stages, or to relieve suffering, if not to prolong life, in the latter stage. Finally, although in many of the cases of laceration in which I have removed the neck of the womb the patients have since remained sterile, there appears to me to be no doubt that this operation is nevertheless called for in some cases of sterility resulting from the mechanical obstacle to impregnation offered by a greatly hypertrophied, elongated, and conical cervix uteri.

Within the last few years, having for the foregoing reasons now amputated the cervix in a considerable number of cases, I may observe (and my friend Dr. Hugh Kennedy, who assisted me in nearly all my earlier cases both in the hospital and in private practice, confirms the statement) that, so far at least, we have had no experience of any of the disastrous consequences which some authorities insist on ascribing to this operation. I shall now briefly refer to a couple of the many cases of this kind which I could here cite did space admit.

Of these the first was one in which I removed the cervix from a patient in hospital on whom I had previously twice tried trachelorrhaphy for an extensive stellate laceration. Having failed then, owing to the multiple form of the rent, the great loss of substance, retraction, and cicatricial induration of the parts, which it was impossible to vivify so as to bring together, she was sent home for some months. On her return, the pelvic symptoms having become more urgent, we found it necessary to remove the entire cervix as high up as we could safely apply the *écraseur*. The parts were allowed to granulate, the permeability of the os being carefully maintained; and, although her recovery was somewhat slow, it was complete, and since leaving the hospital she has had no uterine trouble. In several other instances also the cervix was removed under somewhat similar circumstances, and with a similar result. In another of these cases, the operation was performed for the relief of areolar hyperplasia with deep and suspicious-looking ulceration extending around the everted edges of a stellate laceration existing in a patient whose family history rendered the occurrence of cancer in the diseased and disintegrated

cervix not unlikely. In that case, too, the patient recovered perfectly; but since the operation, now six years ago, although still a youngish woman who had previously had children in rapid succession, she has not become pregnant.

In several of the cases just referred to the cervix was simply amputated, either by the galvano-cautery wire, as recommended by Dr. Byrne, of Brooklyn, or by the ordinary *écraseur*, and allowed to heal slowly by granulation; whilst in some instances either Sims's or Hegar's procedures, by which the divided parts may be covered by vaginal mucous membrane, were resorted to.

This lecture being, however, already extended beyond our usual limits, I must reserve an account of the methods which are generally employed for the removal of the cervix, whether by the knife, scissors, or *écraseur*, for a subsequent occasion, on which this operation will be described in connection with the treatment of cervical cancer.

LECTURE XII.

CHRONIC HYPERÆMIA OF THE CERVIX UTERI.

GENTLEMEN,—The cervical injuries described in the preceding lecture are seldom met with in gynæcological practice uncomplicated with consequent inflammatory lesions or congestive hypertrophy, or, as it is still commonly termed, chronic cervicitis; hence this condition must next engage our attention. In the following observations I shall avail myself of my own published views, as far as corroborated by my subsequent clinical experience, as well as of the teachings of other recent writers. I may also premise that in the present lectures the terms endometritis and endo-cervicitis are retained merely as commonly accepted expressions still conventionally applied to morbid conditions of which uterine hyperæmia and ensuing hypertrophy are in reality the essential characteristics, and which in a large proportion of cases are directly traceable to cervical fissures or lacerations in which in the course of time inflammatory lesions have become gradually developed, as here shown. (See Figs. 66 and 67.)

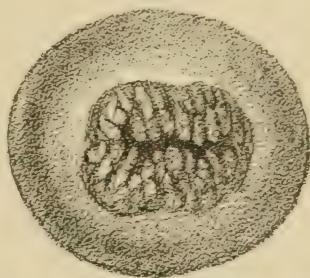
Etiology of Chronic Endo-Cervicitis.—The causes of chronic hyperplasia of the neck of the womb are, however, by no means limited to the cervical injuries just referred to, this most frequent of the complaints peculiar to women, on the contrary, occurring under the most varied circumstances,—viz., as a direct result of endo-uterine or vaginal

FIG. 66.



Fissuring of cervix.

FIG. 67.



Cicatricial ectropium from cervical laceration.

diseases, as often happens from the extension of gonorrhœal and other forms of local irritation; and also from idiopathic morbid conditions developed within the cervix, or extending thereto from contiguous structures, or originating in strumous, syphilitic, cancerous, or other constitutional disorders.

Moreover, to understand the frequency and the pathology of this condition, it is necessary to bear in mind not only the characteristics of the uterine vascular system, and especially the valveless and sinus-like conformation of its veins generally, but also the structural differences between the endo-uterine and the endo-cervical mucous membrane, which are of much importance in explaining the greater proneness of the latter to hyperæmia, and the greater probability of this condition in the former being immediately communicated to the underlying parenchyma. For whilst the ciliate membrane lining the cavity of the uterus is directly superimposed on the muscular substance of the uterus, without the intervention of any submucous layer, and has numerous utricular glands, separated merely by prolongations of the uterine muscular fibre, the endo-cervical mucous membrane,

on the contrary, rests on a submucous layer, and is arranged in numerous folds branching off on either side from the central ridge, and thus presenting the appearance known as the *arbor vitæ*. This membrane is lined with ciliated epithelium, and interposed between its folds are countless racemose glands or Nabothian follicles opening between the ridges of the *arbor vitæ*, and under diseased conditions pouring out that viscid, white-of-egg-like secretion so generally found blocking the os uteri and cervical canal in gynæcological examinations.

Some account must also be taken of the periodic tendency of the uterus to normal congestion in considering its abnormal hyperæmic conditions, as well as the possibility of their being caused by arrested or defective involution after parturition, and often resulting from frequent pregnancies or from over-stimulation of the parts. Congestion of the cervix leading to erosion or hypertrophy is essentially a chronic complaint, and differs in this respect from primary disease of the body and fundus of the womb, which is more frequently of an acute character. That the neck of the uterus is more liable to hyperæmia than the upper part of the same organ is unquestionable, and admits of an easy explanation. For although there is no line of demarcation separating one portion of the womb from another and limiting the diseases affecting each within certain boundaries, yet the situation of the cervix renders it more exposed to mechanical irritation or injury, to which may be added the natural tendency to congestion produced by the pendent situation of this part.

From these considerations it might *a priori* be expected that the uterus, and particularly its neck, should be especially liable to congestive disease, and this fact is abundantly demonstrated by clinical experience. The frequency of non-traumatic chronic hypertrophic hyperæmia, or, as Dr. Thomas terms it, areolar hyperplasia, was pointed out in a memoir I published some years since, in which it was shown that out of six thousand three hundred gynæcological cases treated in the institution with which I was then connected, nearly seven hundred, or more than ten per cent., belonged to this category; and in my subsequent hospital and private practice I have found the proportion of these cases fully as large.

This subject has long been a favorite battle-field for successive

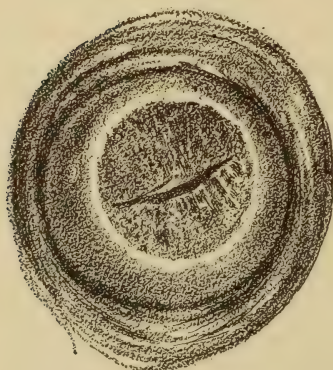
generations of contending uterine specialists, by the older of whom its importance was formerly as grossly exaggerated as it is now unduly minimized by some of their successors. It would, however, be of little practical utility to refer in detail here to the different views which have in turn ruled the practice of gynæcology on this point, since the publication of Dr. H. Bennett's "Treatise on Inflammation of the Uterus," down to the present time. Suffice it to say that the theory by which the complaints we are considering was for many years ascribed to idiopathic inflammation, leading to ulceration of the cervix uteri, has been long since abandoned. These conditions are now generally regarded as the result of congestion, or hyperæmia, commencing in the cervical mucous membrane, the ciliated epithelium of which is thus primarily tumefied and softened, whilst later on the whole tract of the endo-uterine mucous membrane becomes disintegrated and hypertrophied. After a little time this hyperplasia extends to the subjacent muscular structures of the uterus, and gives rise to sero-plastic exudations and infiltrations by which the affected parts are at first mechanically distended and thickened. As the disease goes on these plastic exudations eventuate in true congestive hypertrophy, or areolar hyperplasia. At the same time follicular degeneration of the hypertrophied cervical glands occurs, and in their subsequent proliferation in most instances may be found the explanation of the conditions formerly regarded as the result of ulceration of the cervix, but which Dr. Thomas has better described under the terms "granular and cystic degeneration of the cervix uteri."

Physical Signs of Cervical Hyperplasia. — By careful digital examination any experienced practitioner may readily recognize the existence of chronic cervicitis not only by the hypertrophic enlargement of the congested part, but also by the soft velvety sensation presented by the tumefied and patulous os uteri, and the abnormal tenderness of the parts in such cases. Having thus ascertained that the patient is suffering from congestive hypertrophy of the cervix, the aid of the speculum may be resorted to, by which the congested vascular and tumefied lips of the os will visually confirm the diagnosis of chronic cervicitis. In many of these instances the endo-cervical mucous membrane, degenerated and proliferating, or granular, may be seen extruding through the

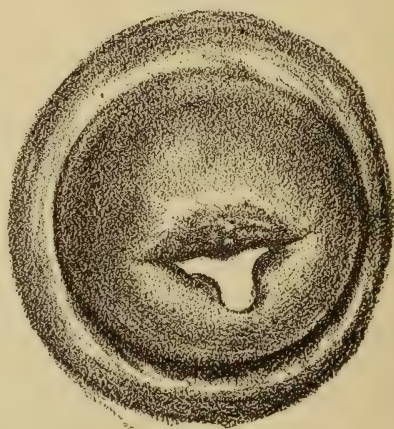
os and giving the raw-looking condition of the part which was formerly confounded with ulceration. In most cases, however, this is to some extent concealed from view by the viscid mucus, resembling white of egg, which must be removed before we can well examine the congested surface of the vaginal portion of the uterus. This tenacious glairy discharge, I need hardly remind you, is secreted by the glandulæ Nabothi in cases of cervical congestion, and under no other circumstances except during pregnancy, when they pour out that secretion by which the orifice of the uterus is sealed.

FIG. 69.

FIG. 68.



Granular erosion of os uteri
(E. Kennedy).



Congestive hypertrophy of cervix (endocervicitis) (E. Kennedy).

In these cases the vaginal surface of the cervix is frequently incrustated with a thick caseous exudation, and the upper parts of the vaginal walls are also commonly similarly affected by the diseased condition of the cervix, with which they are so closely identified by structure as well as by situation, and hence more or less vaginitis accompanies the cervical hyperæmia.

Cervical Ulcerations.—A few years ago very exaggerated views prevailed concerning the frequency and importance of the so-called ulcerations of the cervix from which nearly every gynæcological patient was then supposed to suffer, and with the treatment of which specialists occupied themselves in too many instances to the neglect of the actual ailments of their patients. At the present time, however, this condition is generally recognized

in its true light, namely, as a new formation resulting from either papillary or follicular degeneration occasioned by proliferation of the epithelial cells, or papillæ, of the congested endo-cervical mucous membrane. Nevertheless, we cannot altogether ignore the occasional occurrence of true ulcerations, or, as Hart and Barbour describe them, "destruction of epithelium with inflammation of connective tissue," in conjunction with cervical hypertrophy. These ulcerations begin as mere erosions of the epithelial mucous membrane, the papillæ of which then become hypertrophied and prominent, present a bright-red color, and are soft and velvety to the touch. The denuded surface whitens on the application of carbolic acid, and there is a viscid secretion from the glands of the cervix. After a time the erosion extends farther into the subjacent tissues, the mucous villi are destroyed, and true ulceration with a distinct loss of substance becomes evident on examination.

Syphilitic Cervicitis.—Secondary syphilis is unfortunately a comparatively frequent cause of cervical and endo-uterine congestive hypertrophy, the specific cause of which is locally evinced by a peculiarly mottled or piebald vitreous aspect of the hypertrophied cervix, on which in some instances numerous superficial patches of epithelial erosion are observable. On the other hand, primary syphilitic disease is very rarely met with in the cervix uteri. In the few exceptional cases of this kind that I have seen there was generally also a chancre on the external parts, and the diagnosis was rendered easy by the well-defined character of the sore and the history of the case. These ulcerations require no further notice in this place, as they must be treated as ordinary chancres, wherever situated.

In doubtful cases the diagnosis will be aided by the history of

FIG. 70.



Chancre on cervix uteri (after Dr. Herman).

the case,—viz, whether the patient has ever suffered from a primary sore on the external genitals, or from any suspicious cutaneous disease or ulcerated sore throat; or, when none of these symptoms can be traced, by the fact that the patient has repeatedly aborted, or given birth to immature and putrid still-born children. Under such circumstances we need hardly hesitate to regard any obscure local disease as syphilitic, although we should always be very cautious in imparting our opinion to any one.

Treatment of Chronic Uterine Hyperæmia.—This may be divided into two parts,—namely, first, the treatment of the constitutional cachexia which always accompanies and, as I believe, frequently causes the uterine complaint; and, secondly, the topical treatment required by the widely different forms of chronic uterine hyperæmia. At the present time almost exclusive attention is given to the latter, the former being too generally almost entirely neglected. For my own part, whilst I attach quite as much importance as any other gynæcologist to the appropriate and judicious local treatment of all uterine or peri-uterine affections, yet I am fully convinced by experience that the reason these diseases are generally so tedious and protracted is that the improved local treatment now relied on is not assisted by proper constitutional remedies. I shall, therefore, in the first place very briefly allude to the constitutional measures necessary in these cases, reserving their fuller consideration for a special lecture on this subject. For myself I have always regarded non-traumatic congestive hypertrophy of the cervix uteri as being generally associated with constitutional disease, and, therefore, requiring constitutional as well as local means; nay, in some instances, and especially when occurring in strumous patients, curable by the former alone, without the latter, unless, indeed, the topical application of a little tincture of iodine and the use of hot-water vaginal irrigation can be dignified by the name of local treatment. When the scrofulous diathesis is well marked, as it often is, in those suffering from chronic congestive enlargement of the cervix, the disease should be treated as any other local manifestation of struma, and my experience would lead me again to recommend in such cases the exhibition, for a sufficiently long period, of the simple preparations of iodine, given in the small doses originally advised by Lugol, such, for example, as four or five drops of tincture of iodine together with

two or three grains of iodide of potassium twice a day, in preference to the larger doses of its compounds now generally prescribed. In cases where symptoms of anæmia predominate, the various combinations of steel with iodine are of much benefit, all symptoms of uterine disease often disappearing under their use, especially when administered in conjunction with cod-liver oil and syrup of iodide of iron. As a rule, cases of chronic endometritis as well as of non-traumatic cervicitis when of serofulous origin are singularly benefited by the administration of a long-continued course of perchloride of mercury, as, for instance, the one-twenty-fourth of a grain two or three times a day in tincture of bark for at least a month or six weeks. In nearly every case the prevailing type of chronic endo-uterine and cervical congestive disorders, like that of most other diseases at the present time, is essentially asthenic, and requires the administration of tonics, and more especially the preparations of steel, iodine, and quinine, combined, when circumstances admit of it, with change of air and chalybeate mineral waters.

Local Treatment of Chronic Cervicitis.—In the vast majority of cases of chronic uterine congestion, whilst appropriate constitutional remedies will generally be found useful, as just pointed out, our immediate attention should, however, be directed to the local treatment of the affected part. We must now, therefore, consider the topical measures generally found serviceable in congestive disease of the cervix, reserving the endo-uterine medication required in dealing with analogous morbid conditions of the body and fundus uteri for the next lecture.

To recapitulate the various topical applications that have been recommended in the treatment of chronic congestive disease of the cervix uteri would be to give a list of remedies as long and uninteresting as the “catalogue of the ships” in the *Iliad*; and therefore I shall merely mention the local applications from which I have seen most benefit derived in such cases. Of these, vaginal syringing was the first method of using any topical remedy in uterine diseases, and it still remains one of the most general, though, for reasons that need not be here enlarged on, the syringe should be replaced by the irrigator, with which any of the fluids recommended may be more effectually and safely applied to the vaginal portion of the uterus. Of these, as a rule, probably the

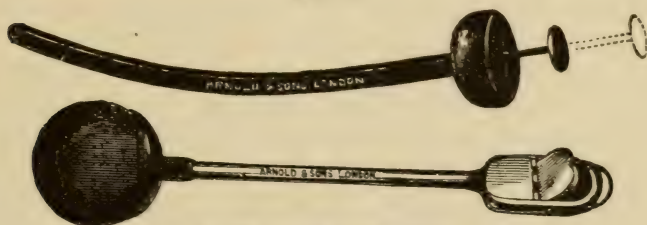
best is plain warm water, the only essentials being that it be employed at a sufficiently high temperature (not less than 110° nor above 120°) and for a sufficient length of time on each occasion, with the irrigator, every night, immediately before going to bed, until the disease is cured. The beneficial effect of irrigation in cases of endo-cervicitis may, however, be greatly increased, in some cases, by the addition of a couple of drachms of either glycerin of carbolic acid, creolin, fluid extract of hydrastis canadensis, or of glycerin solution of ichthyol; or else by the older-fashioned but in many instances no less efficacious similar addition of an ounce or two ounces of boro-glycerin, or half that quantity of iron alum, or compound powder of catechu, to each quart of such hot injections, which, I may here observe, are, in my opinion, distinctly contra-indicated by pregnancy.

The glycerin tampon, for which as a cervical application we were indebted to the late Dr. Marion Sims, still holds its place in the cases now under consideration as one of the most efficient means of relieving the vascular congestion of the cervix, its application being invariably followed by a discharge or exudation of serum from the diseased surface. In this way it acts as a powerful depletant, and on the removal of the plug, which must be withdrawn within twenty-four hours, the part which previously may have been congested and angry-looking—the mucous membrane of the cervix, instead of its natural pink tint, being perhaps as red as the patient's petticoat—will be found pale and normal in color; or, if eroded, the abraded surface will appear clean and healthy-looking. Of course these effects are not permanent; but the repetition of the same application will for a long time continue to produce similar results, until either the remedy loses its power or the disease is cured. At the same time, however, the use of glycerin in this way is not devoid of objections. In the first place, it is messy and incommodious to the practitioner, who has to prepare and introduce the saturated tampon; and, secondly, the profuse watery discharge following its introduction is a source of discomfort often much complained of by the patient, and, when long persevered in, as must frequently be the case, is apt to produce troublesome excoriations of the external parts, especially if the glycerin be not of the purest quality.

Boric Acid.—For the foregoing reasons I now seldom resort to

the glycerin tampon, finding that I can obtain similar benefit, without those disadvantages, by the dry boric acid treatment advocated by Dr. Goodell, of Philadelphia, and by Dr. Duke, of Cheltenham. Adopting the latter's recommendation, I have during the past few years employed this agent by his insufflator and tube as a uterine application in a considerable number of instances of cervical congestive hypertrophy or erosion, and, so

FIG. 71.

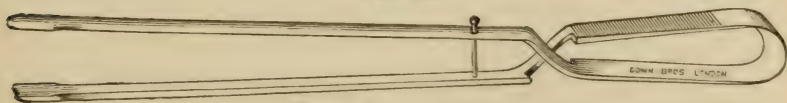


Insufflator and tube (A. Duke).

far, have found that in most cases it possesses the advantages claimed, being antiseptic, cleanly, and facile in use, whilst efficient as a powerful local astringent, and also in a minor degree producing serous exudation, and thus depleting the hyperæmic uterus.

Escharotics and other Topical Applications in Cervicitis. — In dealing with a hypertrophied and congested cervix, no topical application will be found more generally effectual than the repeated employment of iodized phenol, with which the affected membrane may be freely brushed over. As a substitute for this a strong solution of iodine in glycerin or pure carbolic acid may be similarly employed, by means of absorbent cotton firmly wrapped around the point of either an ordinary catheter stylet or a Playfair's probe, or by Duke's uterine dressing-forceps, or by a sponge-holder.

FIG. 72.



Duke's dressing-holder.

When the disease is clearly syphilitic, either the acid nitrate of mercury or fuming nitric acid may be more cautiously used to destroy any chancreous ulceration. With regard to the less man-

ageable escharotics formerly employed in such cases,—namely, the potassa fusa and potassa cum calce, chromic acid, etc.,—I have

FIG. 73.



Uterine sponge-holder.

seen enough of their ill effects in the hands of others, by whom they were in my student days freely or recklessly used to melt down a hypertrophied cervix or to destroy a supposed ulceration in this part, to prevent me from resorting to such agents in cases which may be far more safely and effectually treated. In all cases of cervicitis where the parts are intensely congested and vascular, we can best relieve this condition either by ignipuncture or by the free use of Hall's scarificator, the chief objection to

FIG. 74.



Knife for scarifying the uterus.

which is the difficulty of thus obtaining a sufficient discharge of blood to relieve the turgid vessels, and hence the bleeding should be encouraged as far as required by the use of a uterine cupper, such as that which is occasionally employed in my wards for this purpose, or, if this be not available, then by tepid-water irrigations on each occasion after the scarification. This treatment should be repeated a couple of times a week until the cervix has regained its normal aspect, a result which, I may add, appears probably as much due to the new action excited by the punctures themselves in the diseased parts as to the small local depletion obtainable from the use of the scarificator, any exceptional hemorrhage from the use of which may be easily arrested by the local application of hot water, or by the vaginal tampon if necessary.

LECTURE XIII.

ENDOMETRITIS.

GENTLEMEN,—From cervical to corporeal and fundal chronic congestive hypertrophy the transition is natural and immediate, inasmuch as the cervix cannot possibly be for any considerable time the seat of a hyperæmia which will not if unchecked sooner or later implicate the body and fundus of the uterus. Nor can the lining membrane of any portion of this organ be long thus affected without extension of the disease to the underlying parenchyma, and *vice versa*; and hence the division sometimes drawn between chronic endometritis and chronic metritis is untenable. Having in the last lecture sufficiently discussed the causes of uterine hyperæmia generally, we have on the present occasion to consider, as briefly as the importance of the subject will permit, the symptoms, consequences, and treatment of corporeal and fundal endometritis.

Symptoms of Chronic Endo-Uterine Hyperæmia.—The general symptoms of chronic endometritis, in whatever portion of the uterus it may originate, not only vary in accordance with the extent of the local hyperæmia, but are also largely affected by the constitutional state of the patient, a knowledge of which in each instance is therefore of unquestionable value in indicating the line of general treatment by which the topical measures necessary in such cases may be materially assisted. Chronic uterine hyperæmia when non-traumatic is peculiarly insidious in its invasion as well as gradual in its progress, and, although it occasions numerous and important functional and structural changes and symptoms, these latter are, for the most part, so vague and uncertain that until the complaint has passed from its first stage, that of passive congestion, into its second stage, that of areolar hyperplasia, the nature of the case—nay, the very seat of the disease—may remain undetected. An obscure sense of pelvic discomfort, weight or fulness, is from the first generally complained of. A little later on this develops into a distinct

bearing-down sensation, which, together with pain down the thighs in the course of the crural and sciatic nerves, is produced by the pressure of the congested uterus, even when there is no displacement of the womb. The patient at the same time suffers from pain in the back, across the lumbar region, generally worse after rest, so that she can hardly rise in the morning; and the sense of weakness in this part is such that the sufferer frequently explains it in the words "I feel as if I have no back." The local uterine distress occasioned by this condition, even when extensive, is usually very slight, being rather a feeling of heat and soreness, increased by sexual intercourse, than any actual pain in the seat of the disease. She suffers from a leucorrhœal discharge, more or less profuse, as the case may be, which in a great majority of instances is the symptom that first attracts the patient's attention to the uterine disease and is the complaint for which she most commonly seeks advice.

The functions of the uterus are invariably disturbed. The menses are abnormal: occasionally they are attended by severe pain, in some instances they are diminished, but far more commonly menorrhagia results from the local congestion and irritation, and in a large proportion of cases I have observed that menstruation recurred every third week, and lasted for six or seven days, whilst in the interval the patient was further weakened by the leucorrhœal discharge.

The secondary results of chronic uterine hyperæmia are of no less interest than its immediate effects, including flexions and displacements, occasioned by hypertrophy of the fundus uteri; and besides the just-mentioned menstrual derangements, especially menorrhagia and dysmenorrhœa, we may often observe the extension of active local hyperæmia from the uterus to the ovaries and Fallopian tubes, giving rise to oöphoritis, salpingitis, and their sequences. We must also bear in mind some of the other effects that often follow on the continuation of neglected endometritis,—viz., sterility from mechanical stenosis of the cervix, uterine and cervical catarrh or leucorrhœa, and the long train of nervous and constitutional disorders which may be numbered among its consequences, the latter of which demand greater consideration than they generally receive.

Sterility almost always accompanies this disease, and as long as

the hyperæmia exists to any serious extent the patient will probably remain barren. This circumstance, which I regard of great practical importance, is too generally ignored in practice, as I have seen exemplified in many instances in which patients were subjected to active surgical treatment to overcome a supposed mechanical obstacle to impregnation, and who nevertheless remained childless, no attention having been paid to the existence of chronic cervical congestion, on the subsequent cure of which pregnancy has followed.

Ovarian inflammation, manifested by soreness, tumefaction, and occasionally burning pain in the ovarian region, is one of the most frequent consequences and accompaniments of uterine hyperæmia. As a rule, only one ovary, and that more commonly the left one, was affected in the cases under my observation. Generally in such instances the disease extends from the uterus along the Fallopian tubes, thus arresting their functional action as well as interfering with their structural integrity and possibly giving rise to pyosalpinx. This to a great extent accounts for the fact which I have just mentioned, that patients suffering from endometritis or endo-cervicitis are sterile for the time being.

Vaginitis is present in almost every form of hyperæmia of the cervix uteri, and occasionally pruritus of the pudendum is a most distressing complication of the disease. The bladder also soon becomes sympathetically affected, incontinence of urine and a scalding in micturition being among the most prominent symptoms of endo-cervicitis. The bowels are generally confined, the rectum being frequently loaded with scybala even when the patient persists in asserting that they are perfectly regular, and this constipation reacting on the original disorder adds to the uterine irritation.

Cardialgia and dyspepsia, as well as palpitation, and pain in the left submammary region are among the most common reflex symptoms of chronic uterine disease. In such cases the patient generally seeks medical advice under the firm impression that she is suffering from heart-disease, and will hardly allow any reference to the uterus as the seat of her complaint. In fact, the majority of instances of supposed cardiac disease as well as of nervous disturbance occurring in females about the periods either of puberty or of the menopause, and especially when any evidence of hysteria

can be detected, may, *a priori*, be set down to chronic uterine irritation, on the cure of which all the cardiac symptoms will subside. The same observation applies to the chronic and other intense headaches to which women suffering from hyperplasia of the cervix uteri are peculiarly subject.

As the uterine disorder progresses the patient's general health becomes manifestly impaired. She loses flesh, becomes pale, sallow, or cachectic in aspect, her personal appearance being invariably, after some time, altered for the worse, so much so that a woman who has long suffered from this disease seldom retains much vestige of beauty. There is generally some derangement of the digestive functions; the appetite is impaired, voracious, or capricious; the bowels are torpid, tongue furred, and breath offensive; the intestines are distended by flatulency, which is especially troublesome after food, and a sick stomach, especially in the morning, is frequently complained of. The patient gradually becomes weak and languid, and cannot take exercise without fatigue. The mind soon begins to sympathize with the body, and she grows hysterical, nervous, or in some cases irritable to the verge of insanity. But, as already stated, these constitutional symptoms, however important, are by no means pathognomonic of uterine disease, the diagnosis of which can be made only by local examination.

Treatment of Chronic Endometritis.—In no respect is the contrast between the gynæcological practice of the present day and that in vogue when I began the special study of that branch of medicine more observable than in the certainty with which endo-uterine diseases—then beyond the possibility of either diagnosis or remedy—may now be accurately recognized and effectively dealt with. Nevertheless, the employment of remedies or surgical methods directly applied to the internal surface of the uterus is hardly quite so novel as is commonly supposed. Our return to long-disused or forgotten ancient ways in this, as well as in other practices in modern gynæcology, is well exemplified by the anticipation, in the sixteenth and seventeenth centuries, of methods of dilating the cervical canal and applying escharotics to the endometrium very similar to those rediscovered or reintroduced by Marion Sims, Kidd, Hegar, and others, among whom the name of Simpson, although earlier,

stands pre-eminent. The latter's suggestion of the employment of sponge tents for the dilatation of the cervical canal, as well as of the use of the uterine sound in cases of womb-disease before regarded as "beyond the reach of any certain success of detection or possibility of removal," is still remembered by some of our senior colleagues as having been hailed as "the commencement of a new era in uterine surgery." It may therefore be of interest to recall the fact that, as I have elsewhere pointed out, an identical method for the same purpose was described nearly two hundred years previously. Thus, in that somewhat rare work, "The Method of Physic; containing the Causes, Signes, and Cures of Inward Diseases in Man's Body from the Head to the Foot. By Philip Barrow, Student in Physic and Astrology. Most humbly dedicated by the author to his singular good lord and master, Lord Burghley," the eighth edition of which was published in 1639, the writer, speaking of the treatment of contraction of the os uteri, says, "You must put a dry sponge that hath a cord hanged at it into the straight place to the intent to make it wider, which if it do fall out you must put in another that is thicker. Therefore you must have many and sundry dry sponges ready. . . . But yet you must alwaies put in sponges until the end of the cure, lest that the mouth of the womb do gather together againe."

In like manner, the application of escharotics and other remedies to the endometrium was unknown to gynæcologists of the last generation, the revival of which treatment in modern practice is mainly due to Ringland, Kidd, Atthill, and other teachers of the Dublin School, and was originally suggested in the long-neglected writings of a great French surgeon of the sixteenth century. Thus, in Ambrose Paré's treatise "De Hominis Generatione" (1597) will be found not only an illustration of a uterine dilator for the rapid expansion of the orifice of the womb, but also a proposal for the destruction of intra-uterine growths by strong sulphuric or nitric acid: "Ergo curandarum verrucarum tria erunt velut summa capita, vinculum, sectio, et cauterium. Ne autem repullulent instillabitur oleum de vitriolo, *aqua fortis* seu chrysulca, aut capitelli ex qua cauteria potentialia concinnamus." ¹

¹ Ambrosii Parei, De Hominis Generatione, caput lxii., lib. i. p. 728. Folio, Parisiis, 1582.

Although, as just shown, endo-uterine exploration or treatment was thus recommended in what—especially by those unacquainted with the literature of that period—are now regarded as “the dark ages of medicine,” and although early in the present century ineffectual attempts were made at the resuscitation of these procedures,—first by Dr. Macintosh, of Edinburgh, and somewhat later by Dr. Blundell, of London, who, on this as on many other gynæcological questions, was, as I have before said, far in advance of any of his contemporaries,—nevertheless, not much more than forty years since, when Simpson taught the use of sponge tents and of the sound for intra-uterine exploration, the former had fallen into complete desuetude. As to intra-uterine medication, little, if anything, was practically known in my earlier days, when I was assistant physician to the Rotunda Hospital, where the chief endo-uterine treatment then employed in the gynæcological cases under our care in that institution was the introduction of a stick of nitrate, broken off and left in utero in some instances of menorrhagia, and which, as thus applied, without preliminary dilatation, was, as may be readily understood, more frequently followed by metritis or cellulitis than by the cure of the disease it was intended to relieve.

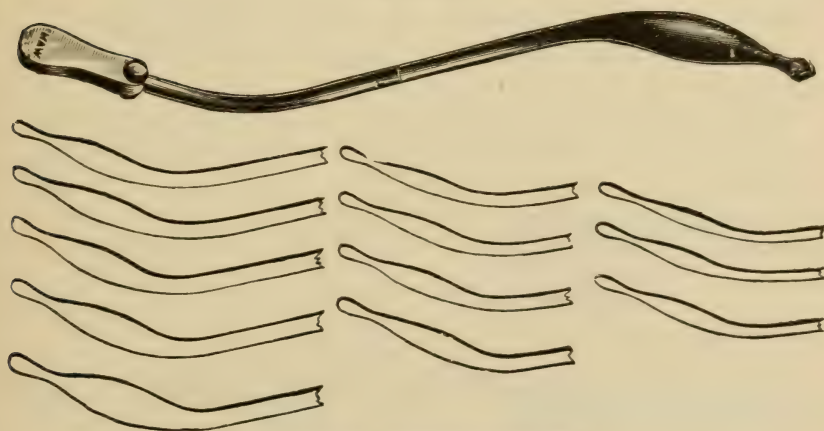
With regard to the more practical aspects of this subject,—viz., the methods of modern intra-uterine treatment in cases of endometritis and the conditions by which this is called for,—whatever may be the value of the following observations, I may at least claim that they are founded on a somewhat large clinical experience, in hospital and private practice. Thus, within the last eighteen years, far more than ten thousand gynæcological patients have come under observation in the extern department or in the wards under my charge at the Mater Misericordiæ Hospital. And of the cases therein admitted during that period, in thirty-five per cent. intra-uterine exploration or treatment was found necessary, and was resorted to when not otherwise specially contra-indicated.

Essentials of Endo-Uterine Therapeutics.—There are two points essential, under all circumstances, for any effective intra-uterine treatment. In the first place, the orifice and cavity of the uterus, if not already sufficiently dilated, should be previously mechanically expanded for this purpose. Secondly, whatever application

may be resorted to should be brought into direct contact with the diseased endo-uterine structures. These propositions will, perhaps, appear too self-evident to need any notice here; nevertheless, as any failure in intra-uterine medication arises, in nine out of ten cases, from this neglect, a few practical observations on these two points may not be superfluous in this connection.

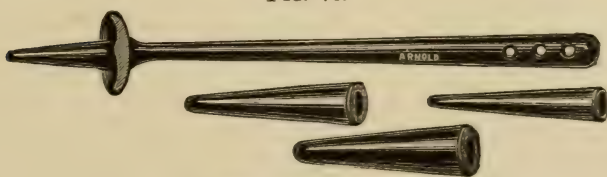
Method of Rapid Dilatation of the Os Uteri.—Until a recent period the only means available for opening the cervical canal

FIG. 75.



Macnaughton Jones's uterine bougies.

FIG. 76.

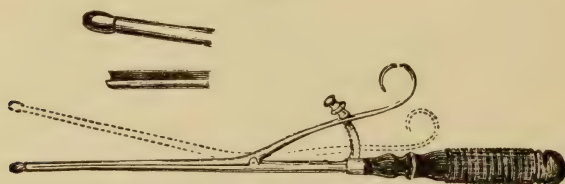


Lawson Tait's dilators.

and os uteri for endo-uterine treatment was the use of comparatively slowly-expanding tents, which, whether in the forms of the older-fashioned sponge tents recommended by Simpson, or of the laminaria or tupelo bougies and tents subsequently advocated by Sloan and others, effected their purpose at the cost of much time and pain, as well as of some risk from their employment. Never-

theless, such tents to the present day are extensively sold by the instrument-makers, and hence must be approved of by some practitioners. Why this should still be the case seems difficult to understand, inasmuch as those antiquated methods may be now replaced by the more rapid and, as I believe, generally safer plan of immediate mechanical expansion by means of any of the various uterine dilators suggested by Hegar, Lawson Tait, Macnaughton Jones, Reid of Glasgow, Duke, and others. In this connection I may, however, venture to express a preference, in most instances, for the rapid cervical dilator which I myself designed, and which, from experience of its employment in many hundreds of cases in hospital and private practice, I have found a reliable means of speedily obtaining sufficient expansion of the os uteri for endo-uterine treatment. The method of employing such instruments must, however, be reserved for a subsequent lecture.

FIG. 77.



More Madden's rapid cervical dilator.

Uses of the Uterine Curette in Endometritis. — As already pointed out, no intra-uterine application can be of any avail unless it reaches the surface on which it is designed to act. The practical importance of this essential but often neglected factor in uterine therapeutics is more especially obvious in the closely-allied instances of chronic corporeal metritis and subinvolution, in both of which (and more especially the former) the lining mucous membrane of the womb is either overlaid by an impervious pseudo-membranous albuminoid neoplasm evolved from the proliferating cilia of the diseased surface, or else so thickly bathed in the tenacious morbid secretion therefrom as effectually to protect the underlying tissue from the action of any remedial agent introduced into the uterine cavity. It was, therefore, suggested by Dr. Atthill, several years ago, that, with the view of overcoming this difficulty, intra-uterine medication should be chiefly

restricted to the period of denudation immediately after the menstrual epoch. This suggestion, although an excellent one in some instances, is by no means generally practicable, and would restrict intra-uterine therapeutics within extremely narrow limits. Nor does any gynæcologist—including, I am sure, my distinguished friend Dr. Atthill—now find it necessary to postpone uterine treatment merely to hit off the post-menstrual period, inasmuch as we may, in cases of endometritis or subinvolution, for instance, remove at any time the pseudo-membrane and secretions just referred to by the use of one or other of the many forms of uterine curettes, of which within the past few years so many forms have been supplied by the ingenuity of Drs. Thomas, Emmet, Duke, and others, and so at will bring our remedies into direct contact with the true intra-uterine surface. In such cases the method of

FIG. 78.



Thomas's dull-wire curette.

FIG. 79.



Sims's curette.

FIG. 80.



Double curette.

FIG. 81.



Simon's curette, or spoon.

removing the uterine secretions by Playfair's probe armed with cotton wadding, or by that material round the point of an ordinary speculum forceps, as pictured in some recent text-books, is, I think, ineffective and antiquated.

Of curettes for endo-uterine use the choice, as I have before observed, is now large, as may be seen from the subjoined sketches of some of the instruments of this kind which are commonly employed.

I may also observe that I have found Dr. Duke's cervical and flushing curettes of great value in intra-uterine treatment, the

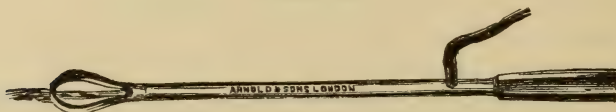
FIG. 82.



Duke's "egg-whisk" cervical curette.

former of which is especially useful in removing that viscid mucoid secretion by which the cervical canal is generally blocked in cases of endometritis, and so facilitating the application of remedies to the internal surface of the uterus; whilst the latter, or new, flushing uterine curette, combining the functions of curette and irrigator, possesses obvious advantages in dealing with these cases.

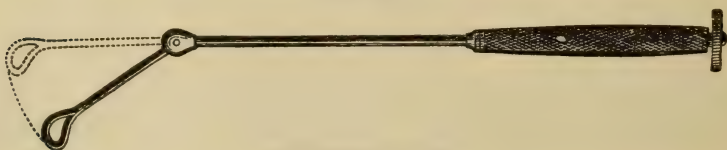
FIG. 83.



Duke's flushing curette.

Probably, however, every gynæcologist thinks the special instruments that he himself uses better than his neighbor's; and from this weakness I cannot claim any special exemption, as for some years past I have chiefly confined myself to the use of the

FIG. 84.

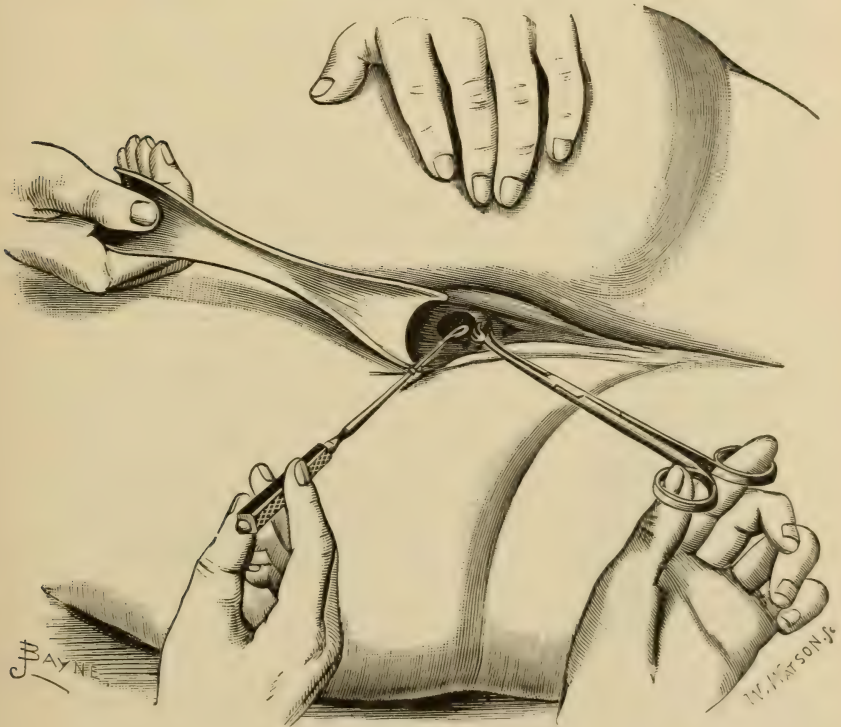


More Madden's curette.

adjustable curette, or, as I prefer to call it, the uterine scoop, here exhibited, and which I devised with the view of obtaining greater power of manipulation within the uterine cavity, so as to insure the most thorough denudation of the parts to which it is applied.

This instrument differs in principle, as well as in form and material, from Thomas's dull-wire and other curettes generally employed, the scoop or blade being made of hard silver, somewhat larger as well as sharper, and capable of being set at any desired angle in utero by a screw adjustment in the handle, so as more effectually to scrape away the structures to be removed, and also, by the consequent hemorrhagic depletion thus caused, relieve the vascular tension of the uterine tissues in cases of congestive hypertrophy.

FIG. 85.

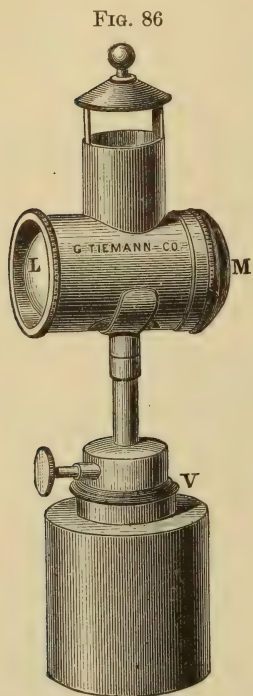


Curetting of uterus (A. R. Simpson).

The particular form of curette employed, however, matters little, provided it be properly and judiciously used in suitable cases. For this purpose, therefore, in the instances now referred to, the patient should be placed in the usual left lateral position, the os exposed with the duck-bill speculum, and the cervix well drawn down by a vulsellum, so as to facilitate the introduction

of the curette, with which the endo-uterine surface is to be firmly but gently scraped down in the manner shown in Fig. 85.

Visual Examination in Relation to Endo-Uterine Therapeutics and Diagnosis.—In direct connection with endo-uterine therapeutics and the diagnosis of those morbid conditions of the endometrium that demand their application, and which either have their starting-point in cervical lacerations and lesions, or else the existence of which, though corporeal or fundal



Portable benzine lamp.

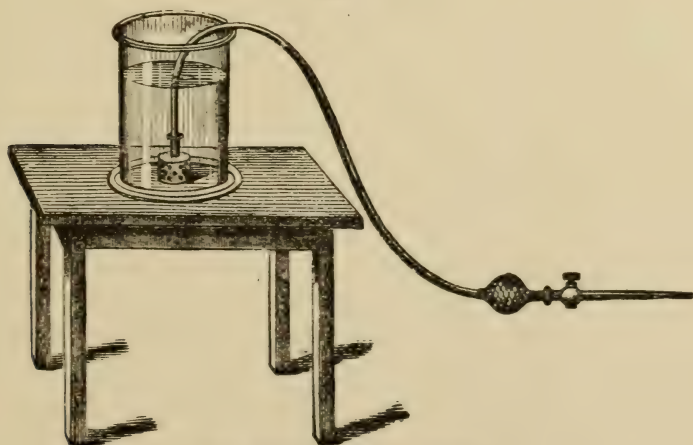
in their origin, is evinced by the aspect of the vaginal portion of the uterus, I must here refer to some previous observations "On Visual Examination in Gynæcology," which may be found in the second of these lectures, in which I pointed out the importance of sufficient illumination in the diagnosis and treatment of some of the diseases referred to, as well as the errors arising from the neglect of this consideration, and described the various means by which direct sunlight may be replaced for visual examination of these parts. There is, however, as I remarked, room for further improvement in this respect; and the difficulty of making a satisfactory visual examination of the vaginal portion of the uterus, which might throw light also on various forms of endo-uterine disease, still frequently presents itself even in the gynæcologist's consulting-room, where the couch is most advantageously

placed with reference to light, and this trouble, as I may now repeat, is of course still more commonly met with in the patient's own chamber, where the bed is often so situated as to preclude full access of natural light into the speculum. I would, therefore, again suggest a trial either of the speculum illuminator there described (see page 31, Fig. 14), or of Dr. Macnaughton Jones's speculum demonstration appliance, or else an ordinary portable speculum lamp or Priestley Smith's candle lamp.

Irrigation with Hot Water.—The one endo-uterine treatment

the value of which in every form of chronic inflammatory or congestive disease of the endometrium is, under ordinary circumstances, almost universally acknowledged is frequent and long-continued hot-water douching or irrigation, for the purpose of inducing contraction of the congested vessels and improving the local circulation. As to the method by which this intention may be carried out, there is, however, an unfortunate discrepancy between the actual practice commonly adopted and that which should be employed. Twenty years ago, in the "Transactions of the Dublin Obstetrical Society," I called attention to the dangers of uterine injections with the ordinary female syringe, exemplifying this by the clinical history of some cases then referred to, and at the same time exhibiting an irrigator which I suggested as a substitute for the vaginal syringe in all cases, and which I still think possesses the advantages of greater simplicity of form, convenience and facility in its employment, and efficiency in its action, over instruments of a similar kind. This irrigator, having been since appropriated or copied by others,

FIG. 87.



More Madden's uterine irrigator.

without any acknowledgment, from the third volume of these seldom-consulted "Transactions," has recently, with my consent, been reproduced by Messrs. Arnold and Sons, London, as well as by Messrs. Corcoran, of Dublin, and Weiss, of London and Manchester. Therefore, its uses may be here briefly referred to,

inasmuch as the syringe still holds a place in the gynæcological armamentarium, notwithstanding the several dangers and inconveniences connected with its employment, especially when used for intra-uterine purposes, such, for instance, as the injection of air, or the production of metro-peritonitis from undue force, as well as the risk of thus driving the injected fluid through a patulous Fallopian tube into the peritoneal cavity, or else through the dilated uterine sinuses, in recent cases of subinvolution, into the circulation, and so causing sudden death from embolism, of which two instances are recorded in a recent number of the *Occidental Medical Times*. Moreover, to the present day, the syringe is still regarded as an almost indispensable adjunct in the treatment of nearly all the diseases peculiar to women *et quibusdam aliis*, and is employed by them without any special caution or apprehension of possible mischief therefrom.

Without further reference, however, to the dangers that may attend the use of the syringe, its complete inefficacy in the treatment of endometritis should also be borne in view. In such cases, to produce any permanently beneficial effect from the local application to the endometrium of hot water, it is obvious that this must be kept in contact with the congested surface for a considerable time, and be applied with uniform force and at a uniform temperature on each occasion. None of these intentions can possibly be carried out with an ordinary syringe, whilst all of them may be obtained by the employment of an irrigator such as that before you, by which a gentle continuous stream of water may be readily conducted, at any desired temperature, and for any required time, into the uterine cavity.

Endo-Uterine Treatment in Congestive Hypertrophy of the Womb.
—The majority of cases in which topical applications to the lining membrane of this organ may be called for are instances of congestive hypertrophy ending in areolar hyperplasia, or, as it was formerly called, chronic inflammation of its structures, or endometritis. Whether inflammation had really anything to do with the morbid conditions now referred to or not is a question which was long debated, and which, as far as our present purpose is concerned, may be regarded as affecting names rather than facts. It matters practically very little which of these or other suggested terms be employed by pathologists, provided only that it be one

not liable to mislead the practitioner as to the necessity for that topical treatment the importance of which in these cases is now generally recognized. I have already alluded to the improved methods of local exploration at present available for the recognition of these conditions, the existence of which could formerly only be inferred from concurrence of various symptoms many of which may be also present under other circumstances. Of the symptoms thus relied on the most constant, I may again remind you, are obscure pelvic discomfort or pain, a sense of uterine fullness and displacements, particularly retroversion or retroflexion, from the weight of the congested or hypertrophied fundus. Besides these, there is generally menorrhagia or dysmenorrhœa, or both, as well as uterine leucorrhœa. Lastly, in this connection, must be mentioned the various constitutional sympathetic disorders of the general health, and especially those manifestations of hysteria and other reflex cerebro-nervous disturbances which are so intimately associated with all uterine disease.

Subinvolution.—What has been just said with regard to endometritis is equally applicable to the next most frequent disease in which intra-uterine treatment is required,—viz., subinvolution of the uterus, as the latter cannot exist without the former; and hence the several methods of topical treatment available in both these complaints may be included together in the present summary of my clinical experience of intra-uterine therapeutics. In this connection I shall, therefore, now refer, first, to the management of those more common instances in which we have to deal with the milder forms of corporeal endometritis and subinvolution in which the disease is comparatively recent and has not progressed to the graver pathological changes which will be subsequently alluded to as consequent on the neglect and extension of this condition; and, secondly, we may consider the more active treatment required in the latter cases.

Iodine and Tanno-Terebinth.—Of the many topical methods I have tried in the treatment of congestive hypertrophy which is generally associated with subinvolution of the uterus, I have obtained the most satisfactory results from the free application to the endo-uterine surface of a strong solution of iodine in glycerin of carbolic acid, which in some instances of chronic subinvolution may be followed by the introduction of a small tampon soaked in

a saturated solution or mixture of tannic acid and rectified turpentine. This preparation, which, for lack of a better name, may be described as tanno-terebinth, has been prepared for me by Messrs. Hamilton and Long, to whom I am indebted for the time and trouble they have given to carrying out my suggestion; and, as may be seen from the specimen here shown, forms a creamy, oleaginous fluid, which, when employed in the manner referred to and left *in utero*, acts as a powerful local astringent on the congested endo-uterine membrane, rapidly relieving the local vascular tension; and, secondly, as a foreign body excites muscular contraction of the uterus, and thus generally insures its expulsion from that organ within twenty-four hours. I know of no means by which, in suitable cases, an enlarged and dilated uterus may be more speedily restored to some approach to its normal condition than that tampon. And hence, although obviously unsuitable in all cases where any active congestion or inflammatory action is present, I would recommend a trial of this agent in otherwise appropriate instances of the kind above referred to. I need hardly repeat that to use such an application safely the os must be thoroughly dilated; the size of the tampon must be proportionate to that of the uterine cavity, and it must be so secured by a ligature as to be easily at once withdrawn should any symptoms supervene rendering this necessary.

Nitric Acid and other Endo-Uterine Escharotics.—The foregoing methods, however useful in ordinary cases of chronic corporeal metritis or congestive hypertrophy,—of which, as before observed, the most common exemplification is met with in connection with subinvolution of the uterus,—are generally ineffectual in the treatment of some of the graver forms of so-called chronic endometritis. In such cases of long-standing local hyperæmia the lining membrane and submucous tissues of the uterus are disintegrated and altered by the erosion of the mucous membrane and destruction of the normal ciliated epithelium, and the consequent pathological changes in the uterine structures, which have been well described by Professor Palmer, of Cincinnati, in his able monogram “On the Inflammatory Affections of the Uterus.” In these cases, as Dr. Palmer points out, the mucous membrane thus disintegrated is replaced by polymorphous cells with a pavement-like epithelium. The whole membrane, the

utricular glands included, becomes atrophied, a layer of connective tissue lines the cavity, covered only perhaps by polymorphous cells; or the membrane, within which are minute cysts of degenerated glands, may be transformed into a callous structure of varying thickness. Before undergoing general atrophy, however, the glands commonly take on cystic degeneration from localized atrophy of their orifices, and then present the appearance of rounded hemispherical projections or pedunculated tumors varying in size from a pin-head to a large pea, elastic to touch, and with transparent contents. These glands may likewise be greatly hypertrophied,—cystic or glandular polypi. Associated with the above conditions are so-called vegetations, granulations, or fungosities. They resemble somewhat papillary epithelioma, and may degenerate into that condition. There may also be detected pit-like depressions and elevations formed by the rupture and falling out of the glands.

It is obvious that under such circumstances the methods of treatment already described as generally sufficient in ordinary cases of congestive hypertrophy and subinvolution of the uterus would be wholly inadequate, and must be replaced by more active measures, among which the thorough removal, as far as possible, of the diseased surface structures by the curette holds a primary place as a preliminary to the use of remedies by which not merely the disorganized surface but also the deeper-lying implicated uterine tissues may be reached. Of these unquestionably the most potent, but unfortunately the least manageable, is the actual cautery; in my own practice, having tried almost every form of cautery that can be thus applied to the endometrium, including the old-fashioned cautery-iron, the thermo-cautery, and the electro-cautery, and having found it impossible either to reach all the diseased structures or to restrict the action of the cautery to these, I have been obliged to discard its intra-uterine employment. In this connection I may, however, observe that the actual cautery, when applied to the external or vaginal surface of a congested cervix in the form of *ignipuncture*, not only will be found in many instances of great local benefit, but may also prove of much larger utility than is generally known in the

¹ See System of Gynæcology by American Authors, 1889, vol. i. p. 570.

way of reducing the corporeal and fundal vascularity and hypertrophy of a chronically congested and enlarged uterus in some cases. Next in power, and far before the actual cautery in practicability for intra-uterine purposes, is the potential cautery, or, in other words, any of the strong acids that may be thus used as escharotics. Of the latter the most efficient in suitable cases, and with due precaution the most manageable, is fuming nitric acid, the advantages of which in this way were familiarized by the teachings of gynæcologists of the Dublin school before they were elsewhere generally known. In the use of this or of any of the other escharotics, such as chromic or sulphuric acids, the acid nitrate of mercury, etc., which may be occasionally substituted for the nitric acid for endo-uterine application, it is, of course, equally necessary that the cervical canal and os internum should be thoroughly dilated, that the posterior vaginal wall be well protected by the duck-bill speculum, and the uterus drawn down as nearly as possible to the vulva by the vulsellum, so that its cavity may be effectually swabbed out by the escharotic. In this way the whole charge of acid may be expended on the affected surface without much risk of injuring the vaginal walls or external parts, which, however, should be well anointed with vaseline beforehand. Immediately after the application the uterus and vagina should be washed out with an alkaline solution, and common soap-and-water is as good as any that can be employed for the purpose, and if pain be complained of a morphia suppository introduced. When thus used nitric acid may generally be safely employed in those cases of intra-uterine disease in which its application is necessary, and to which, I need hardly add, its use should be restricted.

I shall not occupy your time by any detailed reference here to massage, electricity, or any of the other equally useless methods that have been recommended in the treatment of the cases under consideration. The former, or massage, valuable as it may possibly be under other circumstances, is wholly out of place and gravely objectionable on moral as well as on physical grounds in the local treatment of any gynæcological case whatever, and on the latter ground is obviously especially inapplicable in cases such as those with which we are now dealing. The latter, or faradization, method I have tried in a few instances of chronic enlargement or hypertrophy of the uterus consequent on arrested invo-

lution, and after the subsidence of all subacute inflammatory symptoms, with the view of stimulating the contractility of the womb, but finding that, in my hands at least, this method did not fulfil the promises held out by its advocates, I have ceased to employ it in such cases.

Constitutional Treatment.—Finally, in this connection I desire once more to impress upon you the necessity of constitutional as well as of local treatment for the cases now under consideration. Therefore, whilst fully recognizing the great importance in chronic endometritis of the methods of intra-uterine therapeutics that I have previously referred to, I cannot, at the same time, refrain from again observing that at the present day there is unquestionably a general tendency to rely too exclusively on topical treatment in this and all other uterine diseases. I have already briefly alluded to the constitutional relations of endometritis as well as of other gynæcological disorders, more especially as observed in patients of strumous or gouty diathesis, and have urged the importance in their treatment of conjoining constitutional remedies with whatever local measures may also be required. In such cases there are no more valuable means of hastening the cure of chronic gynæcological disorders than change of climate and the use of various mineral and thermal waters, chalybeate, sulphurous, iodated, or arsenical, which may be selected in accordance with the special exigencies of each case. I can speak from long practical experience as to the benefit thus derivable from various mineral waters and health-resorts in many instances, and the accuracy of my views on this subject is sufficiently attested by the freedom with which they have been appropriated by some recent writers from the works¹ in which I have shown the advantages, collateral and direct, of a visit to a suitable foreign spa, whenever feasible, as a supplement to the local treatment adopted in chronic uterine affections. These benefits are not only the actual remedial effect of whatever mineral spring may be chosen, but still more the moral and physical benefits of the change of climate, occupation, and mode of living involved in the journey to any distant watering-place.

¹ On Change of Climate in Treatment of Chronic Diseases, by T. More Madden, M.D., third edition, London, 1885; The Spas of Germany, France, and Italy, by the same, second edition, 1884; The Health-Resorts of Europe and Africa, by Dr. More Madden, third edition, 1891.

Notwithstanding the boasted incredulity of some gynæcologists as to the efficacy of any drugs in the treatment of chronic congestive hypertrophy, I still venture to repeat that those who conjoin appropriate constitutional remedies with local treatment in such cases will cure their patients more quickly as well as more permanently than those who rely altogether on the latter. In the majority of instances the subsidence of hyperplasia will be materially expedited by the administration of a course of bichloride of mercury, in minute doses, given in tincture of bark and continued for some time after the disappearance of all apparent uterine congestion. In patients of strumous diathesis, endometritis, in addition to the topical measures already referred to, demands general treatment similar to that required in other local manifestations of this cachexia, and particularly the use of those special alteratives and tonics which the resources of modern polypharmacy have so abundantly supplied us with. In women, moreover, the gouty and rheumatic diatheses commonly show themselves in chronic uterine complaints, rather than in any of those external forms of the same constitutional conditions more often observed in the opposite sex. This fact, too generally ignored, explains the efficacy of alkaline mineral waters, such as Vichy, in many of the chronic gynæcological diseases of patients of gouty habit, and the utility of iodated and arsenical mineral springs, such as Kreuznach, Wildegg, or Royat, and Mont Dore, which I have severally found of signal use in shortening the course of congestive hypertrophy of the uterus in women of these constitutional proclivities. By thus availing ourselves of all the varied resources of constitutional as well as local treatment in our dealings with chronic diseases of women, we will best consult the advantage of our patients, and reflect credit on that gynæcological art which it is our province to cultivate, and to raise from that narrow specialism to which some would degrade it, to its true place as an integral portion of the great science of medicine.

LECTURE XIV.

UTERINE FIBRO-MYOMA.

GENTLEMEN,—There are probably few gynecological questions of greater practical importance than the etiology, symptoms, and treatment of non-malignant uterine tumors, or fibro-myomata. These tumors are unquestionably among the most frequent of the organic diseases peculiar to women, being met with in nearly twenty per cent. of our middle-aged gynecological patients. Moreover, as I found when I was a demonstrator of anatomy, they are also not uncommonly revealed by post-mortem examinations, even in cases in which their existence has been unrecognized during life.

The term fibroma, or fibro-myoma, and the ordinary classification of these growths into submucous, interstitial, and subperitoneal tumors, may be here retained for convenience of description, as being generally accepted, though hardly pathologically accurate, expressions. In the vast majority of cases non-malignant uterine tumors, whether myomatous or fibroids, are primarily identical with the normal structures of the uterine walls, within which they originate, and from which they develop in whichever direction least resistance is offered to their growth. Thus, if their point of origin happen to be nearer to the external or subserous surface of the womb, the new growth in the course of its development will sooner or later become subperitoneal. If, on the other hand, its primary situation be closer to the endo-uterine mucous membrane, the fibroma—as a rule, not without exceptions, as some tumors remain intramural throughout their existence—will eventually protrude into the uterine cavity. Here its presence generally excites some degree of muscular contraction

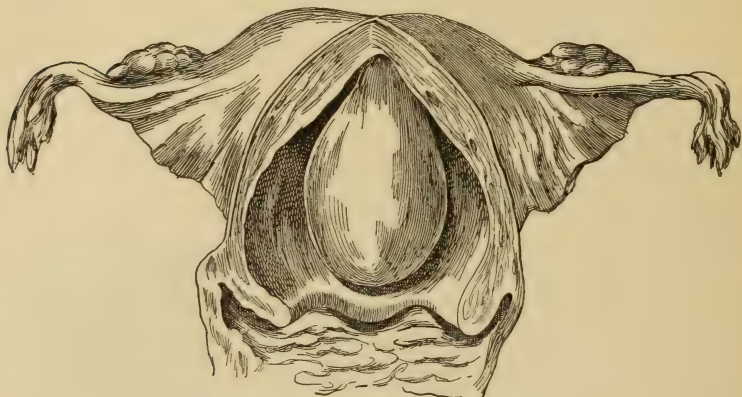
FIG. 88.



Section of uterus showing subperitoneal and submucous tumors (Duke).

or expulsive action, by which ultimately the tumor is dislodged and pushed down towards or through the os uteri. We may

FIG. 89.



Pedunculated polypoid submucous myoma.

here, therefore, entirely disregard the distinction between pedunculated uterine fibroids and so-called fibrous uterine polypi, which are merely a stage of the former. In the following observations the term tumor will be applied to all fibro-myomatous growths that may be discovered within the uterine wall or attached to either its serous or mucous surface. Subperitoneal fibro-myomata usually spring from the superficial muscular layers of the posterior uterine wall. Such tumors being generally multiple, we may in the same case find one of these growths embedded in the uterine parietes, another, more developed, forming a sessile tumor on its subperitoneal surface, and a third which has already become pedunculated and is merely connected by an elongated pedicle with its point of origin. These subperitoneal tumors are of special pathological importance, not merely on account of their frequency and the greater difficulty of their diagnosis and treatment, but still more on account of the changes which they occasionally undergo and the complications to which they may give rise.

Etiology.—Little is actually known with regard to the causation of uterine fibro-myomas, beyond the facts that they more frequently occur in women between thirty-five and fifty years of age and in those of the strumous diathesis than in others, and that they are somewhat more prone to exist in patients who are

married and sterile than in those who are single, or who, having married, are fruitful. Formerly such tumors were supposed to result from the organization of retained adherent placental debris, or in coagula consequent on the rupture of some intramural vessel. But further investigation has shown that there is no general connection between these conditions and the growths under consideration. All that is known on this subject is the fact that the uterus is peculiarly liable to the development within its walls of new myomatous growths; but why or how this occurs is still as obscure as when it was observed by Galen that "*omnium tumorum qui præter naturam sunt, varietas, ex ejus quod influxit, natura nascitur.*" Or, to quote the words of one of the most eminent modern authorities on this subject,—viz., Dr. Gus-

serow, of Berlin,—“Of the causes of fibroid tumors we know as little as of the causes of most pathological new formations, that is, nothing!” Hence, leaving the pathogenesis of fibromata to those who have ingenuity and leisure to waste on such disquisitions, I shall confine myself in the present lecture to the more practical, if humbler, task of endeavoring to place succinctly before you some knowledge of the pathology and symptoms of the uterine tumors which you may have daily occasion to deal with in your future gynecological practice. This elementary knowledge, dry as its details must needs be, will best serve as an introduction to the subsequent and possibly more practically interesting lectures, in which we shall consider the diagnosis and treatment of the various forms of uterine tumors, which will be illustrated by our clinical experience in the adjoining wards.

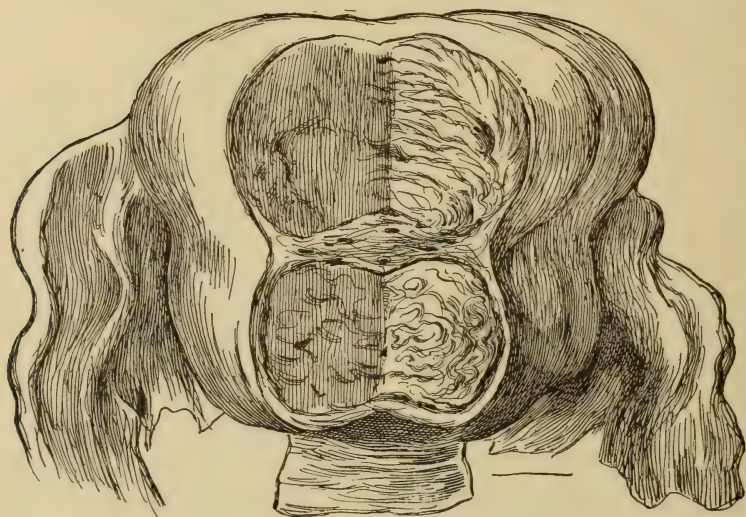
FIG. 90.



Multiple fibroma.

As already observed, fibroid tumors of the uterus are non-malignant in their course, and usually are myomatous in their origin, the chief mass of every fibroid consisting of unstriated muscular fibres. In the process, however, of their growth, the relative proportion of their fibrous and muscular constituents gradually becomes altered by the increasing development of the connective tissue investing and binding the muscular fibres of the neoplasm into their closely interwoven plaits or bundles. During this process of conversion of a myoma into a fibro-myoma or

FIG. 91.

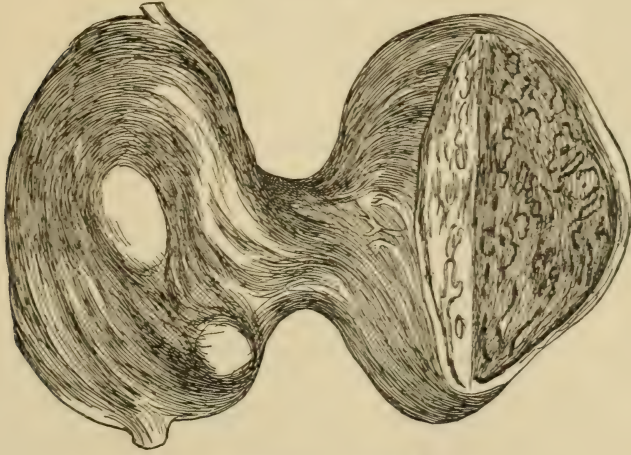


Section of interstitial fibroid.

fibroid, according to Klebs, the lymph-spaces and blood-vessels within the tumor are narrowed and partly obliterated; the smooth muscular bundles are preserved, but the individual fibres can no longer be recognized separately; in their place, very narrow, long, rod-like nuclei lie embedded in a striated basis-substance. Hence even in this stage of development the tumor cannot at all be pronounced a pure fibroma. Its biological activity is herewith closed, and these are just the forms in which degenerative processes appear. A preponderating development of the muscular tissue, which would stamp the tumors as pure myomata, is comparatively rare; in general, the formation of the muscular substance runs parallel

with the vascular development, and the richer nutritive supply thereby originating; yet tumors also occur which from the outset consist almost entirely of smooth muscular fibres, possess the

FIG. 92.



Section of portion of multiple fibroma.

grayish-red, dimly transparent appearance of normal uterine muscular tissue, and are evidently contractile.

Symptoms.—The existence of a uterine fibro-myoma is usually indicated by hemorrhage, pelvic or abdominal enlargement and pain, vesico-rectal irritation or obstruction, which symptoms are materially modified, no less by the age of the patients than by the size and position of the growth in each case. Thus, for instance, subperitoneal and deep intra-mural tumors, although occasioning less disturbance of the utero-ovarian functions than such as are submucous, are still more liable to give rise to unmistakable objective symptoms and secondary complications than the latter; whilst, on the other hand, tumors which are first observed after the menopause are less likely *cæteris paribus* to occasion well-marked symptoms than those occurring in younger patients.

Hemorrhage is, of the symptoms just mentioned, by far the most important, the uterine hyperæmia attending the development of every fibroma giving rise in cases in which the patient has not passed the menopause to menorrhagia, which usually is ac-

accompanied by more or less pain or dysmenorrhœa. In the great majority of cases metrorrhagia or hemorrhage between the periods is also among the prominent symptoms of uterine fibroma. The extent of this flux is influenced mainly by the position of the tumor, being more excessive in the smallest submucous or polypoid form than in the largest subserous fibroid.

FIG. 93.



Pedunculated
polypus springing
from lip of cervix
(A.D.).

Uterine Displacements from Tumors.—No fibromyoma can attain any considerable size without causing some displacement of the uterus, which even in the earlier stages of the disease is generally found prolapsed, or lower than normal in the pelvic cavity. Later on, the opposite condition is as commonly produced by the further development of the growth, elongating and pushing the uterus upward into the abdominal cavity. This point is one of great importance in reference to diagnosis, the sound in such cases passing deeply into the elongated uterine cavity, when by rotating the tumor (unless it be a subperitoneal growth loosely attached by a long pedicle to the uterus) the handle of the sound will if the neoplasm be uterine follow the movements of the rotated body. In most instances intra-mural and subperitoneal tumors originate within, and ultimately extrude from, the posterior wall and fundus uteri, and hence retroversion and retroflexion are commonly met with in such cases. Another, although rarer, form of displacement, due to fibromata, is inversion of the uterus, produced by the traction of a submucous tumor growing from the fundus.

Pelvic pain, or local discomfort from the weight and pressure of the enlarged uterus or tumor, or from uterine action caused by its presence, is seldom absent in these cases. At first this pain is usually so slight or indefinite as to be of no pathognomonic significance. As the disease advances, however, the expulsive effort excited by a submucous or even by an intra-mural fibroid becomes characteristic of its encroachment on the uterine cavity. This is especially marked at the catamenial periods, when I have frequently seen recurrent expulsive uterine action or pains, almost as forcible as those of the second stage of labor, thus occasioned. In the case of subperitoneal fibromas severe pain is not confined

to the menstrual epochs, but may result at any time from the pressure of the new growth on other organs. Among the pressure troubles occasioned by large fibromas may also be included œdema and muscular cramps in the legs, from compression of the pelvic vessels and nerves; incontinence of urine; difficulty of micturition, from pressure on the base of the bladder or on the vesical neck; and, lastly, hemorrhoids, tenesmus, and obstructed defecation when the rectum is similarly affected.

These symptoms are, of course, modified in cases in which the tumor has risen into the abdominal cavity, and there produced the symptoms referred to as consequent on subperitoneal fibroids. In all such cases, in addition to these local symptoms, the patient's general health soon becomes impaired by the process of the disease. Weakened by the hemorrhagic and leucorrhœal discharge, she becomes anæmic, and loss of appetite, dyspepsia, and irritation of stomach may be regarded as among the consequences, though not among the symptoms, of uterine fibromata.

Differential Diagnosis of Uterine Tumors.—Foremost among the diseases with which uterine fibroids and especially fibro-cystic growths may possibly be confounded are ovarian cystoma, from which the former may, as a rule, be distinguished by the more advanced age of the patient, the more solid character of the tumor, its lower and more central position, even when extending far above the pubis into the abdominal cavity, its slower rate of growth as well as lesser mobility, and the marked elongation of the uterine cavity in the majority of cases of fibro-myomata. The differentiation between large subperitoneal uterine fibro-cysts and ovarian or parovarian tumors, the general symptoms of which are almost identical, is a matter of much greater difficulty, and in some instances is practically impossible until abdominal section has been resorted to. In most cases, however, much light is thrown on the diagnosis by their history, aided by careful recto-abdominal exploration, and, if necessary, by aspiration and microscopic examination of the fluid contents of the cyst. Thus, if in any case of this kind the age of the patient is that at which uterine fibroma is most usual,—namely, between thirty-five and fifty years; if the tumor has developed slowly, and has commenced in the hypogastric rather than in either iliac region; if uterine hemorrhage has accompanied the growth at any stage; if, irre-

spective of the effects of hemorrhage, the general health is comparatively unaffected ; and, above all, if on endo-uterine exploration the cavity of the womb be found notably elongated, then, as a general rule, the tumor is neither ovarian nor parovarian, and should be regarded as being most probably a uterine fibro-cystic growth. This question is one, however, of such practical importance that its fuller consideration must be reserved for a subsequent lecture on the diagnosis of ovarian growths or cystomata. Besides the latter, numerous other conditions may be also enumerated as liable to lead to diagnostic errors in this connection,—viz., the tumor of the gravid uterus, where the gestation is normal, or that which may be occasioned by an abnormal tubal or other ectopic gestation cyst, as well as other Fallopian tumors or collections, and also pelvic abscess and hæmatocele, tumors in the broad ligaments, ovarian displacements into Douglas's space, lastly, above all, displacements of the uterus, and more especially retroflexion. From any tumor occasioned by pregnancy, however, a uterine fibroid or myoma may, as a rule, be distinguished by the history of the case, the age of the patient, the rate of growth, and the position and physical character of the tumor, as well as by the presence or absence of the usual symptoms and positive signs of pregnancy, so as to present no diagnostic difficulty to a well-educated practitioner ; whilst from other tumors, whether intra-peritoneal or pelvic, a properly-conducted bimanual examination and the employment of the uterine sound, aided by the general symptoms and course of the disease, should be sufficient to prevent any error in this respect.

LECTURE XV.

METAMORPHOSIS OF FIBROMATA.

GENTLEMEN, — Before referring to the treatment of these growths, we may briefly consider the various structural changes to which fibro-miomata are liable, and by which their ordinary course may be deflected.

1. *Absorption of Fibro-Myomata.*—Of primary importance in this connection is the question of the spontaneous removal or cure

of these tumors by absorption or other natural processes. The actuality of this occurrence in any instance has been strenuously denied by some eminent modern authorities, who on that denial base their conviction of the absolute necessity of surgical interposition in all cases of the kind. Nevertheless, as no amount of negative assertion, however forcibly expressed, can ever outweigh the positive testimony of those who, like myself, have had clinical demonstration of the occasional complete subsidence of myomas by natural agencies, I may here reiterate my belief in the unquestionable possibility of this occurrence, as well as of the fact that these tumors are amenable to purely medical treatment in some exceptional instances. Elsewhere I have referred to cases proving this, and others have recorded similar instances. Thus, some years ago, Dr. Kidd (in the fifth volume of the *Dublin Obstetrical Transactions*) related a case in which a large uterine fibroid, that at one time occupied the whole of the upper part of the pelvis, and rose in the abdomen midway between the umbilical and xiphoid cartilage, was so completely removed by absorption within a period of five years as to leave no trace whatever of its former existence. Another very remarkable case of the same character may be found in Sir Charles Clarke's "Observations on Diseases of Women," which, as that work is almost unknown to gynæcologists of the present generation, and as the facts recorded therein cannot be invalidated by any lapse of time, appears to me well worthy of being recalled to mind in this connection. "A lady," says Clarke, "had labored for some time under a very profuse discharge of blood from the vagina. Upon an examination a tumor consisting of several irregular portions was found descending into the vagina from the cavity of the uterus. A large tumor, as big as a child's head, could be felt through the parietes of the abdomen just above the pubes. Upon the surface of this tumor could be felt two smaller projections, one of which was the size of a man's fist, and the other twice this size. A variety of means were employed for the relief of this case for about two years. Upon examining the abdomen at the end of this period, the tumors could not be discovered. At length the patient, worn out by pain and by discharge, died. Her body was examined in the presence of Sir Walter Farquhar, Mr. Chilver, and Dr. Clarke. The uterus was found as large as that of a woman at the end of the fifth

month of pregnancy. Upon the anterior part of it, near the fundus, were found two small tumors as large as peas, which were probably the same tumors before felt, of the size above mentioned, as there was no other vestige of them. These tumors were of a hard and resisting nature, and were lying between the muscular part of the uterus and the peritoneum covering it.”¹

A case of the same kind has come within my own observation, which, in view of the prevailing scepticism as to the possibility of removal of fibromata by absorption, may also be referred to. In that instance the patient, an unmarried woman aged forty, when sent into hospital under my care by my friend Dr. Cruise, ex-president of the Royal College of Physicians, was suffering from profuse menorrhagia, pelvic pain, and pressure troubles caused by a uterine fibroma as large as the foetal head at full term, and was then examined by my colleagues, who concurred in the diagnosis and the expediency of oöphorectomy. On the day fixed for this, however, she became extremely nervous, and refused to submit to operation. She was subsequently retained in the hospital for nearly three months, during which time hypodermic injections of ergot or of ergotin were at first almost daily found necessary to check the hemorrhage, which thus gradually subsided to some extent, although until she left the hospital we found it necessary to administer iodide of potassium together with liquor ergotæ twice a day in a ferruginous tonic mixture. I afterwards learned that she persevered in taking that medicine for nearly two years, with occasional intervals. Ultimately she returned last March, when, although the uterus was still enlarged and some hemorrhage continued, to our surprise, on examination, no vestige of the tumor was discoverable.

Moreover, fibro-myomata, irrespective of their possible removal by absorption, may be got rid of by other natural agencies, however rare such an occurrence may be. Thus, an interstitial myoma may, as has been proved by clinical experience, undergo a slow process of softening and disintegration, consequent on which it begins to come away in detached fragments or in a semi-fluid state. In this way a cure has in such cases been effected,

¹ Sir Charles M. Clarke, *Observations on Diseases of Women*, London, 1814, p. 72.

the whole tumor being gradually discharged *per vaginam*. "It is possible, I believe," says Dr. McClintock also, "for it to pass off by the rectum, and the patient to recover. One case I saw where the tumor thus formed an abscess communicating with the rectum, and was eventually discharged *per anum*. The uterine tumor, which had been high in the hypogastrium, completely disappeared; but a succession of troublesome abscesses ensued, which reduced the woman to the lowest degree, so that she at length sank."¹

The disintegration of fibroids in cases like that just referred to has been ascribed to sloughing from destructive inflammation, whilst by other authorities the arrested vitality and subsequent elimination of the tumor in such cases is held to be in no wise connected with inflammatory action. Thus, as they say, a fibroma, when attacked by inflammation, presents increased vascularity, attended by local pain, and the other general signs of inflammation. But in these cases the disintegration of the tumor takes place without any manifestation of symptoms which could lead to a suspicion of what is going on; and the outgrowth becomes soft, and breaks down into a dirty putrilage. The manner in which this change occurs may be disputed, but the possibility of the fact itself admits of no controversy. Unfortunately, however, the probability of such a termination in any instance is too remote to have much practical bearing on the general prognosis and treatment of such cases. Still, its possibility is a fact which deserves more consideration than it has yet received in this connection.

2. *Cystic Metamorphosis of Fibro-Myomata*.—Cystic excavation, or transformation, is the most frequent, and from a diagnostic point of view the most important, of the structural alterations that occur in connection with fibro-myomata. This form of degeneration is particularly liable to take place in cachectic patients of the poorer classes, whose general condition has been impaired by privation as well as by long-existing pain, hemorrhage, leucorrhœa, or other direct consequences of the tumor itself. Cystification is also more common in large myomas than in pure fibromas, and is more frequently met with in subserous than in

¹ McClintock, Clinical Memoirs on Diseases of Women, p. 135.

submucous tumors. The histology of uterine fibro-cysts has been a *questio vexata* ever since they were first described by Hunter, ninety years ago, down to the present time. Formerly such cystic tumors were regarded as distinct growths, but it is now established that they originate generally in local softening with effusion, or mucoid degeneration, in the cellular interspaces of a pre-existing myoma. By this process are gradually formed cavities of an indefinite but constantly increasing size, which may be filled with thin serous fluid, or a thick gelatinous matter, or else with a sa-nious liquid and cellular detritus. These are held *in situ* by the distended uterine wall, which is often so thinned out externally, or atrophied by the pressure of the growing cyst, as to form a mere shell around the tumor. In some instances, however, and more especially in those smaller cysts with polished walls that are occasionally met with in the uterine parenchyma, it is possible that, as suggested by Sir James Paget, their formation may depend on an independent process of cyst development similar to that met with in cystic diseases of the breast and other organs.

In an obstetric aspect submucous fibro-cystic tumors are occasionally of considerable practical importance as possible causes of obstructed parturition. Thus, in a case which I saw in consultation with my colleague, Dr. Kennedy, labor was arrested by a tumor of this kind, so that delivery could not be completed by the forceps until we were successful in opening the cyst and giving escape to upward of a pint of viscid fluid. In another similar instance, to which I was called in consultation some time ago, labor had been retarded in the second stage in the same way for upward of forty-eight hours before I saw the patient. She was then in a low typhoid condition. The pains had ceased. Her pulse was weak and rapid, and the parts were hot and dry. The os was fully dilated, and the head high up, and prevented from entering the pelvic cavity by a large cystic tumor growing from the posterior uterine wall, and obstructing the passage. Finding it impossible to push this completely above the head, I at last succeeded in making room for the application of the long forceps, and used as much force to effect extraction as I thought safe to employ with so powerful an instrument as that which is here exhibited to show the amount of resistance to delivery offered by the tumor referred to. This making no impression, however,

on the position of the head, the cyst was perforated ; a quantity of gelatinous fluid escaped, the obstruction yielded, and the head came down. The subsequent convalescence of the patient presented nothing noteworthy, except that it was somewhat slow, but her recovery was complete.

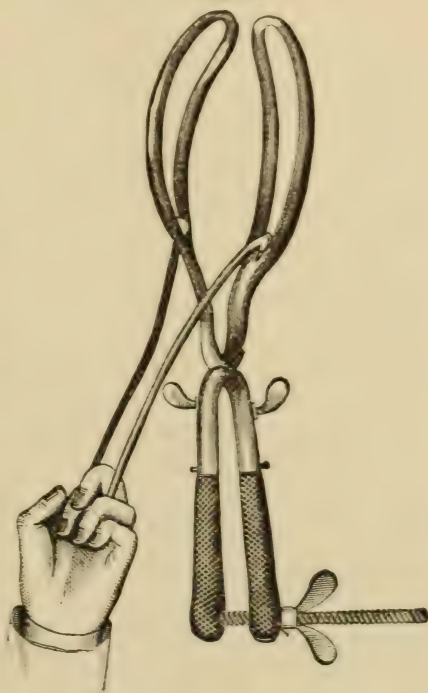
3. *Malignant Degeneration of Uterine Tumors.*—

Whether uterine fibroids can become the seat of malignant disease or not, has been long a subject of controversy. Dr. Goodell holds that in the present state of our knowledge of the pathology of these growths such an opinion cannot be maintained. On the other hand, Dr. Emmet says, "I have had several instances under observation where the tissue of a fibroid rapidly underwent the metamorphosis into sarcoma." Probably

the view originally taken of this question by the late Sir James Simpson, and subsequently adopted by Professor Klebs, affords the best explanation of such cases. The former held that, whilst fibroid tumors have nothing carcinomatous in their nature, nor any tendency to undergo malignant degeneration, they may secondarily become the seat of carcinomatous deposits. The latter only puts the same view in more scientific language.

With these hyperplastic new formations, heteroplasic ones, as he says, become associated, of which, within the fibro-myomata of the uterus, myxomatous and sarcomatous developments occur. Epithelial formations are completely wanting, and genuine carcinomata can thence only proceed out of fibro-myomata in those

FIG. 94.



More Madden's compressing and axis-traction forceps.

cases in which the formation of the tumor extends to the surface of the mucous membrane. The growing of carcinoma into a myoma happens in the same way as the penetration would take place into the normal uterine muscular tissue, continuously or discontinuously. The development of myxomatous and sarcomatous tissue proceeds from the neighborhood of the vessels, and embraces usually only particular parts of the tumor, which in the one case undergo a gelatinous softening, and in another are transformed into a whitish-gray fibrous tissue. The latter especially proliferates extensively, and leads thereby to considerable enlargement of the tumor, mostly one-sided.

4. *Calcification, or Calcareous Degeneration, of Fibro-Myomata* is a less frequent event in such cases than that last referred to, but may occur in myomas as well as in fibromata. This results from a change in the structure of the tumor similar to that frequently observed in the arterial system in advanced life, or so commonly met with in connection with placental disease, eventuating in the disorderly deposit of the salts of lime in combination with, or in place of, the fibrous tissue. In one instance this condition was accidentally discovered by myself in a fibroma during the removal of an adherent placenta which was similarly affected by calcareous degeneration. In Louis's memoir on this subject in the Proceedings of the French Academy of Surgery, a large number of instances are recorded in which calcified fibroids—or uterine calculi, as they were then termed—were detached and expelled from the uterus. Some years ago a case of calcareous degeneration in a uterine tumor came under my notice in a post-mortem examination. In that case the calcified fibroid was found attached to the fundus and projecting into the uterine cavity. It was about the size of a pigeon's egg, and consisted mainly of a hard, amorphous, cretaceous deposit, encrusting and interspersed through the structure of a submucous fibroid.

LECTURE XVI.

SURGICAL TREATMENT OF UTERINE FIBROIDS AND MYOMATA.

GENTLEMEN,—On the present occasion we have to consider the modern operative treatment of uterine fibroid tumors, a subject which affords the most signal exemplification of the recent progress of our art, and can be here discussed with profit only by confining ourselves to a general survey of the more important of the various surgical procedures now employed for the removal or arrest of these growths and of their consequences. Some of the views which I have long maintained on this subject have been strenuously controverted. Nevertheless, as I still presume to adhere to my own opinions and to the methods of practice which I have myself found useful, I shall avail myself of this opportunity of putting before you my clinical experience with reference to the treatment of fibromata, on the practical results of which you may form your own judgment in the gynæcological wards of this hospital.

In so doing, I need hardly observe to those who have attended this clinic that no surgeon recognizes more fully than I do the utility, in appropriate instances, of the improved surgical methods of dealing with uterine tumors, whether it be by enucleation or by oöphorectomy, or other intra-peritoneal operations of which we have here had sufficient experience. At the same time, however, I am no less fully convinced that the general necessity or expediency of these operations in ordinary cases of fibroma is greatly over-estimated. It is further within my own cognizance that the tumors in question may in some instances be satisfactorily treated, or their symptoms may be relieved, by purely medical methods, as well as by electrolysis. The prominence into which the operative treatment of fibromata has recently come is based not only on the suffering and inconvenience occasioned by such tumors, but also on the alleged dangers to life which are said to attend their development. I may, therefore, again observe that in my own tolerably long and extensive experience I have never

yet seen a single instance of death directly ascribable to this cause; whilst, on the other hand, I have seen that result consequent on operations intended for the cure of such cases. In this connection it should also, I think, be borne in mind that after a certain period fibromata frequently become quiescent in their development, and cease to give rise to symptoms demanding any active treatment. Moreover, as shown in the last lecture, such tumors in some exceptional instances may possibly become completely removed by the unaided *vis medicatrix naturæ*, or without operative interposition. For these reasons, before referring to the surgical treatment of the disease under consideration, I would caution you against a too ready acceptance of the doctrine that a woman within the period of menstrual vitality who suffers from uterine fibroma must therefore necessarily be subjected to any operation whatever.

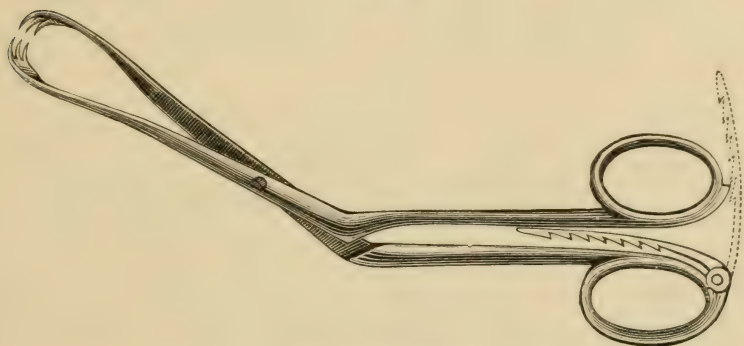
With these prefatory remarks, we may now refer to the principal procedures available in the surgical treatment of the forms of uterine fibro-myomata that come under observation in our gynæcological wards. These may be divided into vaginal and intra-peritoneal operations. In the former are included removal by écrasement, galvanic cautery, polypotome, or curved scissors, enucleation, and traction, as well as vaginal hysterectomy and *morcellement*; whilst the latter include oöphorectomy, the removal of pedunculated fibroids from the subperitoneal surface of the uterus, myotomy, and some other operations, the most important of which is hysterectomy by abdominal section. The special applicability of these procedures, or of their various modifications, must be mainly determined by the physical character and position of the neoplasm, and the general condition of the patient in each case.

Uterine Dilatation.—Before any of these plans of treatment can be determined on in such cases, the cervical canal must be sufficiently patulous to permit an efficient endo-uterine exploration. For this purpose immediate expansion has, I think, advantageously replaced the older method of gradual dilatation with sponge or laminaria tents. In some exceptional instances, however—particularly in the case of sterile patients, in whom the cervix has not been taken up by the development of the tumor—immediate dilatation may be impossible; in such cases, therefore, we may

still avail ourselves of expansion by the use either of sea-tangle bougies or of tupelo tents.

Écrasement.—Any submucous tumor which has become pedunculated, or protrudes so far into the uterine cavity as to permit

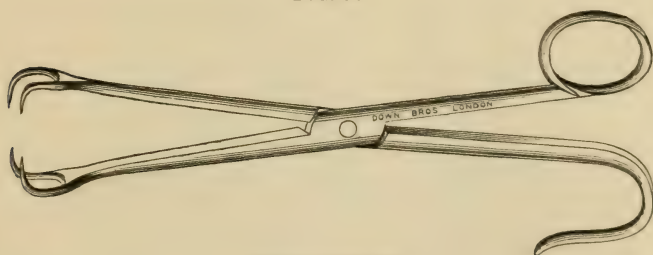
FIG. 95.



Berry Hart's volsella.

encirclement at its point of protrusion from the uterus, may be most readily removed by *écrasement* with a strong steel wire,

FIG. 96.



Kidd's vulsellum.

FIG. 97.

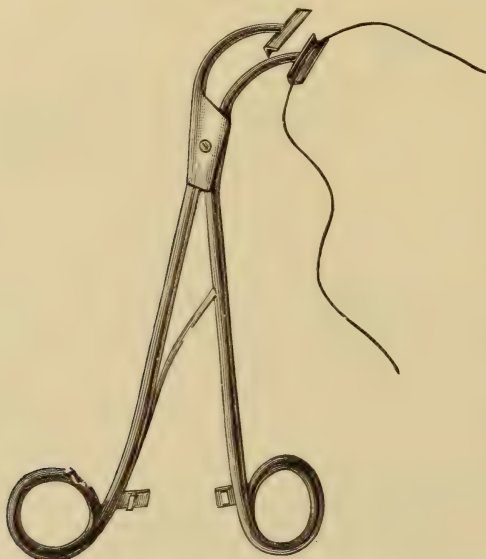


Catch-fastening vulsellum.

which I much prefer to any form of chain or wire-rope *écraseur* in such cases. For this purpose, the uterus being previously

thoroughly washed out with a hot carbolic (one in forty) or corrosive sublimate (one in three thousand) solution, the patient is to be etherized and the cervix drawn down as far as possible by a strong vulsellum; then the projecting tumor is to be similarly pulled down by Kidd's vulsellum forceps, over which the loop of the *écraseur* wire is to be slipped and guided by the operator's finger or by Duke's adjuster around the circumference of the

FIG. 98.



Duke's wire-adjuster for lifting wire over neck of intra-uterine polypus, etc.

tumor until it reaches the pedicle, on which the slack of the wire may then be run in until it begins to bite on the included structure. As soon as this occurs, any further tightening of the wire should be suspended until the operator has satisfied himself that no portion of the uterine wall is embraced in its grasp, and then the division of the pedicle may be slowly and cautiously proceeded with, the surgeon resting for a few moments between each turn of the handle of the *écraseur*, so as to obviate the hemorrhage which might very probably result from any undue haste in this procedure. In this way he should gradually cut through the pedicle until the tumor has been freed from its uterine attachment,

FIG. 99.



FIG. 100.

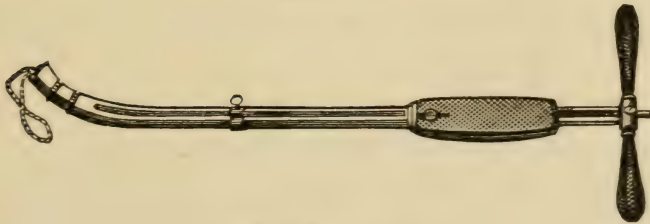
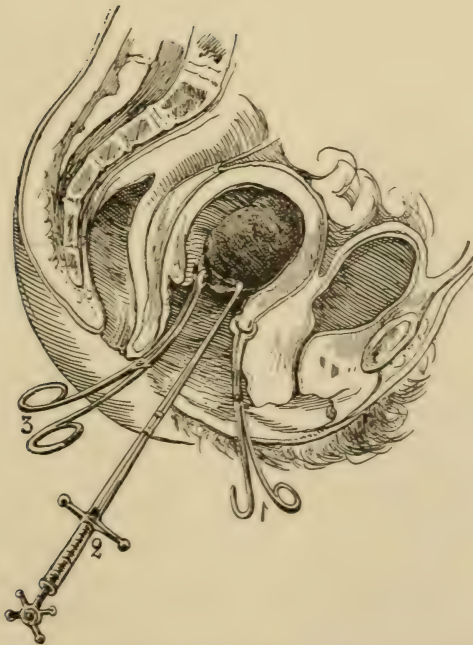


FIG. 101.



- 1, volsella holding anterior lip of uterus; 2, écraseur, wire round neck of tumor;
3, volsella making traction on tumor while écraseur is working (A. D.).

after which it may be drawn out by the vulsellum, or, if too large to be thus delivered, as has happened in several of my cases, by the application of the short midwifery forceps here shown.

FIG. 102.



More Madden's short
forceps.

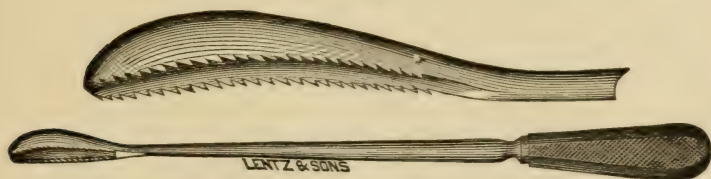
Immediately after the operation the vagina and uterine cavity should be again washed out with a hot antiseptic solution, and, if, as generally is the case, there be no hemorrhage from the pedicle, the parts should be well dusted with iodoform by the insufflator and the patient removed from the operating-table to her bed.

Enucleation.—This operation, though now comparatively little employed, and chiefly restricted to cases of submucous tumors, is, in my opinion, also applicable to some intramural fibro-miomata, and in such cases provides an alternative and possibly a safer expedient than may be afforded by abdominal surgery. All myomas are primarily indistinguishable from the uterine structure within which they originate, being converted into fibromas or fibroids

only by the gradual development of their connective or fibrous tissue. Before this is accomplished, however, they generally become encapsuled or separated by an intervening layer of cellular tissue from the uterine parenchyma, from which in many cases they may be shelled out or enucleated. And, although the operation by which I have often accomplished this object has been reprobated by some authorities, it still appears to me a rational plan of treatment when resorted to in suitable cases. For this purpose, as for *écrasement*, the cervical canal must be previously sufficiently dilated, and the patient be placed in the semi-prone lateral position and etherized. Next the uterus should be thoroughly washed out with a carbolized injection, so as to diminish its vascularity and render it aseptic. A free incision may then be made through the endometrium and submucous structure and capsule into the most prominent part of the tumor. This is now drawn firmly downward in the direction of the pelvic outlet by a strong vulsellum, whilst at the same time all adhesions around

the tumor are broken up digitally or by Thomas's spoon. Lastly, by traction from below, aided by firm pressure from above, the

FIG. 103.



Thomas's spoon-saw, or serrated scoop.

fibroid is forced out of its bed and extracted. In this way I have removed large submucous tumors, and also in some exceptional cases deeper intra-mural growths, as in the following instance.

Case of Intra-Mural Fibroid removed by Enucleation.—An anæmic woman, aged thirty-eight, unmarried, was admitted into St. Elizabeth's ward. Two years previously she had been in good health, then commenced to suffer from metrorrhagia, and for the past year has seldom been free from pelvic pain and hemorrhage. On examination, the uterus was found retroverted by a large fibroid deeply situated in the posterior wall. The cervix being first dilated, a longitudinal incision was made through the endometrial surface and muscular structure, the capsule opened, and the fibroid seized by a vulsellum and drawn down, whilst the adhesions around the tumor were rapidly detached by my finger. The tumor was thus forced out of its bed and extracted. Immediately afterwards a hot-water injection was employed to check hemorrhage, and a tampon saturated in carbolyzed glycerin introduced. For some days the hot-water injection was repeated, and finally, the uterus, being still enlarged, was brushed out at intervals with Churchill's iodine, until it had regained a normal size, when, three weeks after the operation, she was discharged from the hospital.

The enucleation of a fibroid, especially of one deeply intra-mural, is, particularly when the scoop or some other such instrument is used instead of the finger, by no means devoid of danger. But this danger is, I believe, less than that of some

other operations more generally practised for the same purpose. One of the chief risks of enucleation is that the tumor may have so thinned out the uterine wall behind it that this may be lacerated during the operation, and thus cause immediate death from shock or hemorrhage, or subsequently from metro-peritonitis or septicæmia. Even where the integrity of the uterine wall was not thus affected, I have seen death from the latter cause follow the enucleation of a large fibroid. Hence it would be impossible to lay too much stress on the necessity of great caution as well as of strict asepsis, not only during the operation itself, but also in the after-treatment, until the uterine wound has become sealed.

Removal by Traction.—In cases of deeply-embedded myomata which are not encapsuled you may possibly, in some instances, succeed in removing them by Dr. Emmet's operation,—viz., removal by traction. The object of this operation, for the details of which I must refer you to Dr. Emmet's work, is the immediate conversion of the tumor from an intra-mural or sessile into an intra-uterine, pedunculate, or polypoidal form, by traction on the tumor, followed by its division, as it is being removed piece by piece from the vagina, by a pair of blunt-pointed scissors curved on the flat.

We shall now briefly consider the circumstances under which abdominal section is advocated in the treatment of uterine tumors, and the results of the operations which are thus resorted to in such cases. An account of the methods by which these various operations may be practically carried into effect must, however, be reserved for the subsequent lectures in which the removal of the uterine appendages and the extirpation of the uterus by abdominal as well as by vaginal hysterectomy will be again taken up, and in which the details of these procedures will be described.

Removal of Uterine Appendages.—Under this heading may be included both oöphorectomy and the conjoint removal of the Fallopian tubes. Many years ago the removal of the ovaries as a means of arresting hemorrhage consequent on uterine tumors was suggested, though not performed, by the late Dr. Blundell, and the removal of a portion of the Fallopian tubes was also recommended, though for another purpose, by the same authority. These suggestions were, however, ignored for nearly half a century, when by Dr. Battey, of Georgia, by Mr. Lawson Tait, of

Birmingham, and by Dr. Hegar, of Freiburg, and at about the same time, this idea was carried into effect.

Mr. Lawson Tait, to whom we are indebted for the method now generally adopted with such advantage of removing the Fallopian tubes as well as the ovaries in oöphorectomy operations, and whose experience of the removal of the uterine appendages in the treatment of uterine myoma is probably larger than that of any other surgeon, since he first performed this operation successfully in 1872, down to the date of a communication on that subject to the *British Medical Journal*, November, 1890, has recorded a series of three hundred and twenty-seven consecutive cases of removal of the uterine appendages for this disease, with six deaths, giving a mortality of 1.8 per cent., and he very fairly claims that this justifies the adoption of the operation as a means of treatment. He maintains that the cure begins at once, and is generally completed in six months, though in about six per cent. it is protracted over a period of from twelve to thirty-six months. There are only five cases out of the whole series of three hundred and twenty-one which have been complete failures as regards relief of symptoms. Three of these failures have already been submitted to hysterectomy, and in each of these cases the ovaries had been completely removed, but one tube had been left, and Mr. Tait thinks that these cases show that it is more necessary to remove the tubes than the ovaries. Five other cases were incomplete, three dying from other causes before a definite result had been obtained, and two dying from causes connected indirectly with the operation. This leaves three hundred and eleven cases in which cure has been complete. His only objection to the operation is the occasional difficulty of completing it; in about four per cent. of the cases it was found impossible to remove the appendages, and in these hysterectomy was performed, and of course in other cases of very large tumors hysterectomy was deliberately intended from the first.

As to the disappearance of the tumors after the operation, the age of the patient has a good deal to do with it. Thus, under forty years of age, about seventy per cent. of the tumors entirely disappear; between forty and forty-five they do not disappear, but diminish markedly; and after forty-five the diminution is only a shrinking: though there are exceptions to these general statements.

Dr. Martin, of Berlin, however, does not favor the removal of the uterine appendages in these cases. On the contrary, his ideal of this operative treatment (as stated in the *Festschrift of the Berlin Obstetrical Society*, 1890) is one where the new growth is removed and the uterine left capable of its functions. The various operative methods are as follows: (1) enucleation per vaginam; (2) vaginal extirpation of the uterus; (3) removal of pediculated subserous fibroids, or their enucleation after laparotomy. Before 1886, Martin had practised removal of the uterine appendages seven times for myoma, but not since then. He points out that the bleeding may persist, and that he has seen the tumor grow after castration, and the castration act deleteriously on the patient's condition.

Dr. Leopold (in *Arch. für Gynäk.*, Bd. xxxvii. Hft. 1) supports the views of Mr. Tait with respect to removal of uterine appendages for uterine fibro-myomata, and in this respect his opinion may be contrasted with Martin's. He performed it in thirty-four cases for bleeding fibroids, and with a mortality of eleven per cent. Of his last nineteen, however, none has died [and this shows, as Dr. Hart observes, that mortality diminishes as skill increases]. The mortality in other operators' cases was as follows:

Hegar in 132 cases had 12 per cent. mortality.

Lawson Tait in 245 cases (first thousand laparotomies) had 7 per cent. mortality.

" " " 148 " (second " ") " 2.03 " "

Olshausen " 21 " had 19 per cent. mortality.

Martin " 7 " " 14 " "

Fritsch " 11 " " 18 " "

Schröder " 24 " " 4.5 " "

Hofmeier " 15 " " 20 " "

P. Müller " 21 " " 4.7 " "

Tauffner " 17 " " 0 " "

Leopold " 98 " " 11 " "

The average mortality in all is about eight per cent., much the same as the ten per cent. Wiedow found in one hundred and forty-nine cases. Of Leopold's thirty-four cases twenty-four only were complete, and all of these ceased to menstruate, were restored to health, and the tumors became smaller. Leopold insists on scrupulous antisepsis, rapidity of operation in anæmic cases, as well as minimizing the amount of antiseptic used. He prefers a large

incision, ties first the broad ligament with a double silk ligature, and then cuts away the tube and ovary. He then ties each stump deeper, and touches it, if necessary, with Paquelin's cautery, which method has since been generally, and in countless instances, as proved by Tait, successfully, adopted.

Dr. Berry Hart, in the excellent *résumé* of the modern German literature of this subject of which I have here availed myself, says, "The great majority of fibroids requiring treatment must be removed by laparotomy. Not only in the pediculated form can the tumor alone be removed after suitably securing the pedicle, but tumors really intraparietal can be enucleated after laparotomy, and the bed secured by the continuous suture, and thus the uterus and appendages left capable of function." Martin sums up his opinions on the operative treatment of fibroids as follows: "(1) Enucleation by the vagina where the tumor is small and being expelled. (2) Multiple myomata, with uterus mobile, and of such a size as to allow its passage through the vagina; vaginal hysterectomy. (3) and (4) Larger tumors should be removed by ligature of pedicle or by enucleation after laparotomy, and the uterus and appendages left intact. (5) When the tumor cannot be removed without the uterus, it is better to extirpate the whole organ, and thus avoid the treatment of the pedicle."¹

For my own part I still hold, as I have before said, that operative treatment of any kind is not so universally necessary as some regard it in cases of this kind. But at the same time none the less do I believe that no surgeon should hesitate—and I, for one, certainly do not hesitate—to perform oöphorectomy in cases of fibro-myoma the urgent symptoms of which do not yield to a fair and full trial of those other less heroic measures which I have often found effectual in cases of this kind.

The removal of the uterine appendages is most frequently demanded for the arrest of hemorrhage, or the relief of suffering, or in order to check the growth of rapidly-increasing fibromata not removable *per vias naturales*. This treatment is more especially indicated in myoma occurring in young patients, in whom the prospect of any arrest of the tumor by the natural menopause is remote, and who, if they survive till then, are necessarily con-

¹ *Vide* Year-Book of Treatment for 1891, pp. 306-316.

demned to lives of useless suffering. Under these circumstances, therefore, there can be little question of the propriety of attempting by oöphorectomy to anticipate the distant menopause in any case in which this is feasible. But such cases do not prove the advisability of adopting as a general rule of practice, in the treatment of myoma, any operative measures in which, however successful they may be in the hands of some specialists, might, if adopted by gynecologists generally, not improbably eventuate in very different results. Nor, in my opinion, is the operation generally called for or advisable in the case of quiescent fibroids occupying the abdominal cavity in older patients. In such cases the difficulties of removal of the uterine appendages are most marked in the instances in which, if practicable, it might be most useful. Thus, in large subperitoneal or interstitial fibroids which lift the uterus far above the pelvic cavity and bind it to the adjoining parts by inflammatory intra-peritoneal adhesions, it may be found impossible to reach the ovaries by abdominal section until the uterus, by which they are overlaid and concealed, is first detached from those adhesions, and turned out of the abdominal cavity. For the foregoing reasons it appears to me that, whilst we should be prepared to adopt oöphorectomy in all cases of fibro-myoma in which it may be really necessary, we should first note well the circumstances of each individual case, and then in our operative treatment act—*nec temere, nec timide*.

I must here allude very briefly to the other procedures which have been advocated in the treatment of the uterine tumors now under consideration. Of these operations it will be seen from the context that the procedure last referred to, viz., oöphorectomy, seems to me the only one that in such cases may possibly be in any way frequently required, or justifiable under ordinary circumstances. With regard to hysterectomy, which as a measure of necessity I have been obliged to resort to in cases otherwise irremediable, I may observe that, although in those instances the mortality has not been exceptionally large here, and useful as I have found it under such circumstances, I am none the less convinced that the special risks and consequences of hysterectomy are unquestionably such as should suffice to exclude it from consideration as an operation of election. Still, as others possibly of larger experience think differently, I shall briefly refer to the

results of this procedure. With regard to myotomy, the objections to its use will be found here summarized; and as to its alleged utility I can only say that it appears to me a means by which a patient may be effectually removed from a tumor, rather than an operation by which a tumor can be safely removed from a patient.

Hysterectomy.—The ablation of the uterus for fibroma was first successfully accomplished by the late Dr. Clay, of Manchester, forty years ago, and was shortly afterwards again undertaken in a similar case, and with similar result, by Dr. Atlee, of Philadelphia. In both cases the operation was performed by abdominal section, which is certainly a more feasible operation than vaginal hysterectomy in those comparatively rare cases of large fibroid or fibro-cystic uterine tumors in which hysterectomy may be necessitated. It was not, however, until MM. Hardy and Péan, of Paris, in 1873 published their first series of hysterectomy cases that this operation became generally recognized as a legitimate procedure. In the same year a successful removal of a fibroma, weighing eleven pounds, was published by Mr. Lawson Tait, and since then hysterectomy has been employed by other surgeons, and in some instances carried to an extent which can hardly, in my mind, be justified by any statistical accounts of its success in the general treatment of uterine fibromata. According to Dr. Bigelow, of three hundred and fifty-nine operations of this kind collected from different authorities, two hundred and twenty-seven resulted successfully, whilst one hundred and forty-one of the patients thus operated on died. A mortality such as this, greater than one in every three, may well induce us to repeat the question suggested to Dr. Keith by his own more successful experience,—viz., “Does a mortality of eight per cent. justify an operation for a disease that, as a rule, has only a limited active life, that torments simply, and that only for a time, though of itself it rarely kills? The mortality of an ordinary uterine fibroid if left alone is nothing approaching a death-rate of eight per cent. Most of the cases on which I have operated were known to me for years before; only the extreme cases were done. In nearly all the lives were useless, and the risk of operation was clearly understood. Considering the nature of the cases, it seems to me that these operations were, perhaps, justifiable; and, if

these were barely justifiable, what can be said of those ghastly lists of hysterectomy where the mortality is one death in every two, one death in every three, or even one death in four or five?"

Myotomy.—By this operation, according to the late Professor Schroeder, any uterine fibroma may be removed abdominally by partial hysterectomy with the aid of the elastic ligature and the pressure-forceps. If the removal of the tumor were our only object, this operation might possibly be regarded as the best method of dealing with such cases. But as the subsequent recovery of the patient also appears to deserve some consideration, I would venture to point out that Professor Schroeder's statistics furnish the most cogent argument against the adoption of myotomy, and should effectually prevent its future repetition by other and probably less practised operators than that most skilful surgeon. Of those on whom he thus operated he lost no less than thirty per cent. in his first series of cases, and, though this was reduced to twenty-two per cent. in his second series, even that must be regarded as an appalling mortality following an operation employed for the cure of a disease which, when left to nature, is so rarely a direct cause of death.

Removal of Uterus by "Morcellement."—The removal of the affected uterus *per vaginam* by *morcellement*, or bit by bit, the idea of which is evidently founded on Emmet's operation for removal of fibroids by traction and excision of the mass in pieces by the scissors, was brought into special prominence during the First International Congress of Obstetrics and Gynæcology, at Brussels, in 1892, by MM. Péan and Ségond, of Paris, as well as by M. Kufferath, the president, and Dr. Jacobs, the secretary-general of the congress. But, as all such questions should be decided altogether on their merits and apart from any weight of authority, I there ventured to express my dissent from their views on this subject,—*Amicus Plato, amicus Socrates, sed magis amica veritas*. I may, therefore, here repeat that in my opinion the removal of the uterus by *morcellement*, as now advocated by some distinguished foreign authorities, is a procedure necessarily so complex and tedious in its technique, and so liable to be attended by hemorrhagic troubles at the time of its performance or to be followed by septicæmia, as to prevent any probability of its being ever generally adopted by British or American gynæcologists.

My views on the treatment of uterine fibro-myomata which were published eight years ago in the Transactions of the British Gynaecological Society have since been confirmed by other writers, and by none more ably than by Dr. Mundé, of New York, the following abstract of whose observations on this subject I commend to your careful consideration. In his paper on the nature and limitations of operative treatment of uterine fibroids, Dr. Mundé very truly remarks that "there is a tendency among the profession at large to look upon all uterine fibroids as requiring some kind of treatment. He questions whether the pathological importance and injurious influence of these tumors warrant the extravagant enthusiasm accorded to their conservative treatment by galvanism. He thought the relative value of the treatment exaggerated and its indications extended beyond absolute necessity. His conclusions were based upon a study of one hundred and twenty-three cases of uterine fibroid which he had seen during the last three years. Of these, sixty-one gave so little trouble that no treatment of any kind was thought necessary. In the remaining sixty-two cases the call for treatment depended upon the location of the tumor and the symptoms produced. Sub-peritoneal tumors seldom call for treatment except for pressure symptoms; interstitial or submucous, for pressure or menorrhagic symptoms; cervical, for interference with defecation, micturition, parturition, coition, or for the bloody discharge to which they may give rise. He warns us against the premature operative removal of sessile fibroids *per vaginam*, when a few months' oxytocic treatment will often render them easily accessible through the dilated cervix. Fibroid growths of the uterus, situated near the fundus uteri and showing no tendency to downward development, if requiring active treatment, are best reached from the abdominal cavity. Tumors situated near the internal os, which, under the influence of oxytocic measures or of their own accord, show an inclination to dilate that orifice and encroach upon the cervical canal, can almost always, after due preparation, be safely removed *per vaginam*. About one-half of all fibroid tumors which come under the observation of the physician require no active treatment of any kind. Only rapidly-growing subperitoneal or interstitial tumors call for or are benefited by galvanic treatment. The removal by the sharp curette of the hypertrophied mucous mem-

brane of the uterine cavity will often, at least temporarily, relieve the menorrhagia, which is the chief symptom caused by the interstitial variety. Enucleation, after splitting the capsule by means of traction by the finger and some blunt instrument, offers a safe means of cure in cases of interstitial, cervical, and submucous corporeal tumors. Certain interstitial tumors which are so situated as not to be affected by the pressing influence of ergot and depreciating the general health by profuse uncontrollable hemorrhage, and certain cases of rapidly-growing subperitoneal tumors in which a thin pedicle cannot readily be formed, may require the removal of the ovaries to check the hemorrhage and the growth of the tumor. Laparo-hysterectomy should never be performed merely to relieve the patient of a fibroid tumor which does not affect her general health, and is merely inconvenient or unsightly. The nearer the menopause, the less likely is the fibroid to grow or cause trouble, and therefore, other things being equal, the less likely to call for active operative interference.”¹

LECTURE XVII.

TREATMENT OF UTERINE TUMORS WITHOUT OPERATION.

GENTLEMEN,—At the present time, whilst the din of the somewhat heated controversy with regard to the merits of the rival operations and electrical methods by which uterine fibroid and myomatous tumors can be dealt with is still ringing in our ears, it may perhaps be well to recall the fact (long since pointed out by myself and by others) that in a very large number of such cases no special treatment of any kind is really essential.

The occasional or even the frequent repetition of facts or views which a lecturer is particularly desirous of impressing on his class is, I fear, absolutely unavoidable to ensure their hold on the memory of those addressed in a course such as this. With that object, accordingly, I must in this connection again briefly repeat

¹ *Vide* Dr. P. Mundé, “On Treatment of Uterine Fibro-Myomata,” in *Annual of Universal Medical Sciences*, 1890, vol. ii. p. 25.

the statements which form the text of my former and present observations on this subject,—viz., that in cases of interstitial uterine fibro-myoma, the operating surgeon's skill appears to me less frequently required than some suppose, inasmuch as such growths seldom destroy life, and may become arrested in their development and quiescent in their symptoms at the menopause, or even possibly disappear altogether in the course of time. The latter event is, however, too exceptional to have much influence in determining the expediency of surgical treatment generally, and more especially that by oöphorectomy, which, as before stated, is unquestionably called for in the case of fast-grown fibroids giving rise to otherwise incontrollable hemorrhagic or pressure troubles, particularly when occurring in young patients. Moreover, whilst fully recognizing the necessity for operative interference in certain instances of fibromata, and having myself in such appropriate cases resorted quite as frequently as any gynecologist in this country to surgical treatment, either by enucleation or other vaginal methods, or by intra-peritoneal operations, such as oöphorectomy, hysterectomy, or for the removal of a tumor, I, nevertheless, still hold that in not a few instances of fibro-myomata wherein any treatment is needed this may most advantageously be carried out by medical means. I, therefore, desire to urge the utility, before resorting to any of these operations, in instances at least of non-incapsuled fibro-myoma, of giving a fair trial to the alternative treatment which I have myself thus found serviceable in such cases, and by which in many instances of this kind you may possibly succeed in arresting the progress of the neoplasm, alleviating its symptoms, and restoring the patient to comparative health and comfort.

Medical Treatment of Uterine Tumors.—I shall here confine myself to a few observations in reference to the generally-neglected, though in some cases efficacious, medical treatment of myomata. The time thus occupied will not be altogether wasted if I can succeed in showing you that the occasional possibility of arresting the growth of these tumors by appropriate non-operative treatment, as well as the greater probability of thus effectively checking hemorrhage therefrom, should not be entirely lost sight of. For as McClintock observed: "The evidence of these tumors being occasionally removed by the action of medicinal

agents is too strong to admit of contradiction. If no urgent symptom be present calling for immediate attention, it is our plain duty to attempt the cure of the tumor or the arrest of its growth. Happily the measures to be employed for the former of these objects are quite compatible with the attainment of the latter. It should of course be fully explained to the patient how remote the chance of cure is; and also that before any sensible beneficial effects can result from the treatment, it must be steadily persisted in for a great length of time."

Hæmostatic Remedies.—The most prominent symptom of fibromata, especially if submucous and occurring before the menopause, being uterine hemorrhage, the arrest of this must be a primary object of treatment. For this purpose the patient should be kept at perfect rest from the time when the recurrence of the hemorrhage is expected until the menstrual period has completely passed over. In any serious case of hemorrhage thus caused we should at once resort to the free use either of ergotine or, preferably, of the ordinary liquor ergotæ (B. P.), both hypodermically and by the mouth. During the past ten years I have employed ergot or ergotine this way in most cases of this kind treated in my gynæcological wards, and I have no hesitation in saying that we may thus generally control any hemorrhage caused by uterine fibro-myoma. Moreover, by the continued employment of these hypodermic injections, or else of ergot by the mouth, more especially when combined with other hæmostatics (of which I have found bichloride of mercury, hazeline, and bromide of potassium the most valuable), in some instances such a marked diminution in the size of the tumor may be occasioned as to render any further treatment unnecessary.

The utility of these and other non-operative measures for the arrest of hemorrhage from myoma has been referred to by Dr. T. Savage, of Birmingham, in a recent address, which I may here quote: "For the bleeding from the submucous variety I will briefly name only three classes of remedies: first, general remedies, *e.g.*, systematic rest, and a carefully regulated dietary, especially in the direction of limitation of the amount of animal food; secondly, special remedies, as ergot, hamamelis, hydrastis, digitalis, and bromide of potassium, etc.; and thirdly, local remedies, *e.g.*, perchloride of iron applied to the surface, or other styptic or

cauterizing agents, of which mention may be made of nitric acid, actual cautery, electricity by the positive and acid pole, which has a distinctly styptic effect. The use of the negative pole, which is alkaline and destructive, is named only to be condemned. . . . If all the above means fail, the tumor growing, and the patient going progressively down hill, operative measures are our only resort.”¹

Our second therapeutic aim in such cases should be so to stimulate the activity of the local absorbents as, if possible, to induce the diminution of the tumor. Among the remedies available in this way are iodide of potassium, the various bromides, and small doses of tincture of iodine, which was originally suggested so far back as 1835 by Dr. S. Ashwell, and after a long period of oblivion was again recommended by myself in 1873 in a paper in the Dublin Obstetrical Transactions. Chloride of calcium, from which, in the hands of the late Dr. McClintock, I have seen marked benefit in the treatment of uterine tumors, probably acts by inducing a certain amount of calcification and consequently diminished vitality in the neoplasm. By far the most useful, however, of all these drugs is iodide of potassium, when given in as large doses and for as long a period as it can be safely administered in cases of myomata occurring in patients of otherwise robust constitution. With the same intention in many cases of this kind I have also tried the effect of bichloride of mercury, and have in some instances found the patient's general health benefited and the local symptoms improved under the influence of a mild mercurial course. With regard to the curative action of this remedy, my experience is the same as that of Dr. Routh, who says, “I have seen cases of uterine fibroid where, I think, the enlargement had diminished under its use. I do not say that it has entirely disappeared.”²

Lastly, with reference to the benefit derivable in many cases of fibro-myomata from the use of iodated and bromated mineral waters I may reiterate the opinion, founded on my own experience,

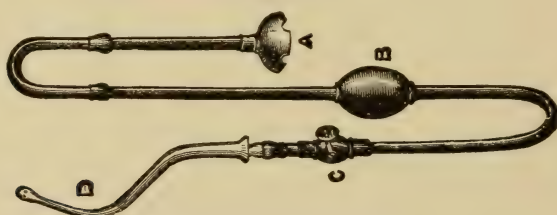
¹ Hemorrhage from the Uterus, by T. Savage, M.D., p. 11, Birmingham, 1893.

² Lectures on Fibroid Tumors of the Uterus, by C. H. F. Routh, M.D., p. 99.

which has been borrowed by others, of the effect of various mineral springs of this class in Germany, Switzerland, and France, on patients undergoing "the course," as well as in cases in which I have since then prescribed these waters,—viz., that in cases of uterine myomata in which, for any reason, operative interference is not available, we may possibly succeed in arresting the development of the disease by sending our patient to a suitable iodated or bromated spa, such as Kreuznach, Wildeg, or Shinsnach.

Local Irrigation.—Among the means by which the congestive hypertrophy of the uterus always attending the development of fibro-myomas may be diminished, and the consequent hemorrhage be checked, none are so generally beneficial as hot-water irrigation. For this the cervical canal must be previously dilated, and the irrigation persistently employed at regular intervals, and for a lengthened period on each occasion, as may be readily accomplished by the use of the irrigator to which I have previously referred, and the form of which is more clearly shown in the subjoined sketch.

FIG. 104.

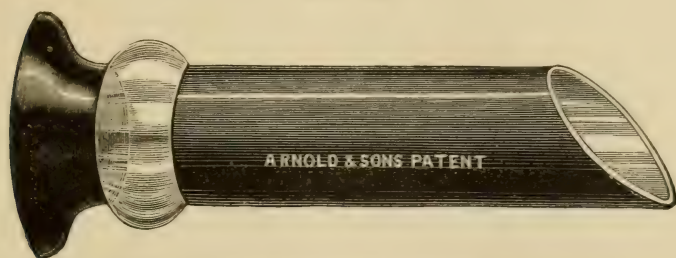


More Madden's uterine irrigator.

Local Use of Iodine.—For the arrest of hemorrhage in these cases, as well as with the object of possibly stimulating the absorption or at least diminishing the size of submucous myomata, in the paper to which I have already referred I advocated twenty years ago the local application of iodine to the tumor itself, when feasible, as an essential and often most efficacious part of the treatment of uterine fibro-myoma. This was accomplished either by Dr. Savage's method of injecting a small quantity of tincture of iodine into the uterine cavity, or by brushing over the tumor with a solution of ten or twelve grains of iodine in an ounce of glycerin, for which purpose, as well as for the application of dressings or caustics to the cervix, the self-retaining speculum here

exhibited will, I may now add, be found very useful. In both cases the os must be dilated. The operation should be repeated at distant intervals, and its effects very carefully watched. I must observe that this operation is by no means suitable, or even safe, in all cases.

FIG. 105.



Duke's self-retaining speculum.

A similar plan of treatment has more recently been very successfully employed by a German gynecologist, of whose method the following abstract has been given by Drs. Mundé and Wells in the *American Annual of Universal Medical Sciences*. "Max Runge, after calling attention to the high mortality after operative measures for removal of fibromata, describes his manner of treating the concomitant hemorrhages, noting forty cases where he had achieved success. Using careful antiseptic precautions, he first, with the patient anæsthetized, makes a digital and instrumental examination to determine the size and condition of the tumor, uterine cavity, and walls, noting particularly the thickness of all parts of the latter, because localized atrophy is frequently present, and, if not recognized, might lead to perforation during the thorough scraping of the cavity with the sharp curette which follows. After the curette a douche is given to remove *débris*, and then an injection is made with Braun's syringe of from seven to fifteen minims of the tincture of iodine, any excess being drawn back into the syringe or removed by another irrigation, which, however, may be difficult on account of the astringent action of the iodine. The patient is kept in bed and an ice-bag applied over supra-pubic region for twenty-four hours. If there are no unpleasant symptoms, the iodine application is repeated in from twenty-four to forty-eight hours, stopping the injection when pain is felt, but injecting enough to reach all parts of the cavity.

Ice-bag as before. In a few cases severe pain results from the use of these large amounts of iodine, but usually there is no trouble. He has never had any symptoms of iodine poisoning, and the hemorrhage has been stopped."

Treatment of Uterine Tumors by Electricity.—In this connection I cannot omit a few words in reference to the latest, and, as some now regard it, one of the most promising methods available in the treatment of uterine fibro-myoma,—viz., that by electricity, concerning which I shall briefly state the result of my own experience. It would, however, be impossible within our limits here to give any useful *résumé* of the arguments of either the advocates or the opponents of this method of treating fibro-myomata, or to enter into any lengthened account of its details, for which I must refer you to the special works of Apostoli and Keith. A couple of short quotations may suffice to show how widely authorities still differ on this subject. "No testimony in favor of this method of treatment," says Dr. Berry Hart, "could be more interesting than Dr. Keith's statement that, in spite of the comparatively low mortality with which the operation of hysterectomy was attended in his hands, he has ceased, since he began treatment by electricity, to perform any operation on the uterus by abdominal section; that he believes Apostoli's method to be the right treatment, and that not only has he abandoned hysterectomy in these cases, but has given up even the minor operation of removal of the ovaries. He points out, however, that some cases are better suited for treatment in this way than others, and that the most suitable cases are those which are suffering from hemorrhage, where the bleeding is so profuse that something must be done, and where a few years ago the propriety of operation would have been considered."¹

On the other hand, the most recent writer on the subject, Dr. Savage, says, "The use of electrolysis for the complete disappearance of myoma appears more like a dream of the past; and, I take it, is settling down into oblivion. Were it otherwise, we should hear on all hands of the large tumors which have disappeared, and of the resulting cures which have been obtained."²

¹ *Vide* Year-Book of Treatment for 1891, p. 317.

² Savage on Hemorrhage from the Uterus, p. 9, Birmingham, 1893.

I have myself had occasion within the past five years to try electricity in the treatment of uterine fibro-myoma in only some twenty instances, either in my hospital or in private practice, and in the majority of these the result, so far at least as the arrest of hemorrhage is concerned, was certainly very satisfactory, the bleeding being thus checked in twelve of these cases. But with regard to the cure of the disease by this treatment, the possibility of which had been demonstrated in the experience of Dr. Apostoli, Dr. Cutter, Dr. Keith, and others, who had employed it on a larger scale, I can only say that I have not as yet seen the complete subsidence of the tumor in any one of the cases so treated by myself, although in several of them its apparent bulk became diminished after six weeks or two months' treatment of this kind. It should, perhaps, be added that in all these instances I used Apostoli's original electrodes, the current, applied to the growth by the intra-uterine pole, being obtained from a powerful Leclanché battery. In the first of my cases I employed the electrolytic negative pole, but after a little experience of its ill effects I abandoned this, and in the subsequent trials used only the positive pole, which, although non-energetic as a galvano-caustic, is far less liable to give rise to trouble, and from its decided hæmostatic action is more suitable to these cases of large fast-growing hemorrhage-producing tumors, in which alone either this or any other active treatment seemed to me generally necessary.

LECTURE XVIII.

MALIGNANT DISEASE OF THE UTERUS.

GENTLEMEN,—Of all the diseases which come before us in gynæcological practice none are more deserving of your careful consideration, not alone on account of its comparative frequency, but also from the terrible nature of its consequences and our too common helplessness to arrest its progress or even relieve its symptoms, than cancer, or malignant disease, of the uterus. Under this heading, for our present purpose, may be included every form of malignant affection to which that organ is liable,

although some of these, such as sarcoma, or connective-tissue malignant tumors, being of less frequent occurrence, will here require less consideration than the epithelial malignant diseases embraced in the term carcinoma, of the three varieties of which scirrhus is the more exceptional, whilst medullary, or encephaloid, and epithelioma are the most common of the cancerous or canceroid diseases of the uterus. It, fortunately, does not come within my province to attempt any reference to the general pathology of the various forms of malignant disease to which the uterus is thus specially subject, and concerning which it has been well observed by Dr. R. Barnes that, "howsoever differing in other respects, the common feature of malignancy—that is, a tendency to destroy tissue, to spread, and to kill—binds them all into one terrible group." Therefore, leaving that task to my colleague Dr. McWeeney, your able professor of surgical pathology, from whom you will learn all that is now known with regard to their histology and the characteristics of the cells, fuchsine bodies, sickle-shaped spores, or other specific micro-organisms that mark the existence of the different varieties of cancerous disease, I shall confine myself entirely to the merely practical aspects of these maladies.

There are at present some cases of uterine cancer under treatment in my wards, and the clinical history of one of these in which you saw the malignant growth removed last week may, I think, preface the following observations on this subject.

E. T., aged fifty-six, widow, and mother of a large family, was admitted on December 6 for cancer of the cervix. Two years after the birth of her youngest child she had ceased to menstruate, being then in her forty-seventh year. Twelve months before admission to hospital "her changes," as she expressed it, "returned," and thenceforward a metrorrhagic discharge was seldom completely absent. She further complained of a profuse blood-stained, fetid, albuminoid, ichorous discharge, by which her linen was stiffened as though with starch and by the downpour of which the labia and nates were extensively excoriated. She also suffered much from intense pruritus of the pudendum, as well as from an incessant burning backache, or sacral pain extending around her loins and down the thighs, and was very emaciated and cachectic looking. On examination the os was found

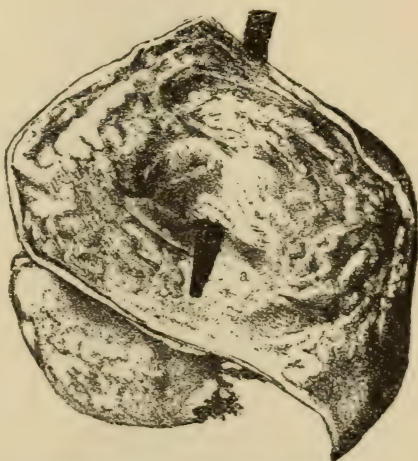
widely gaping and evidently the seat of an old bilateral laceration; the anterior lip was deeply eroded by an extensive ulceration, and the posterior lip was the seat of a large cauliflower cancerous excrescence completely occupying the superior part of the vagina. This growth was extremely vascular and friable, breaking down and giving rise to considerable hemorrhage under digital examination alone. With some difficulty, owing to the softened and disintegrated state of the parts, this tumor and the whole cervix were drawn down by a vulsellum, over which the wire of the *écraseur* was passed so as to enable us to encircle the cervix as high up as possible, and thus effect the removal of the part well above the disease. Before its recession the cervical

FIG. 106.



Cancerous tumor attached to posterior lip.
Anterior lip ulcerated.

FIG. 107.



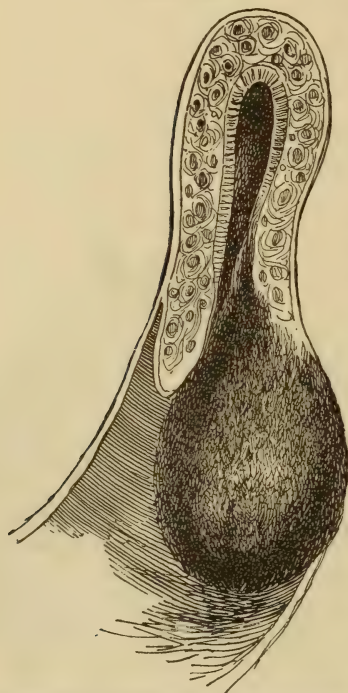
Excised cervix uteri and tumor seen
from above.

stump was caught in a clamp and freely cauterized with the thermo-cautery, for the twofold purpose of arresting hemorrhage and preventing, if possible, recurrence of the disease. The vagina was next thoroughly washed out with hot carbolic solution and the cervical wound dressed with absorbent cotton saturated in that best of all styptics and antiseptics, viz., rectified spirit of turpentine, the use of which in this way I do not think you will find mentioned in any of your text-books, but which from my own experience I can strongly recommend as a most valuable surgical dressing in these and many other cases.

The tumor and the operation in this instance were almost identical with one delineated by the late Sir James Simpson in the second volume (*N. S.*) of the *Dublin Quarterly Journal of Medical Science*, in the subjoined sketch. (See Figs. 106, 107.)

In the foregoing case is afforded an illustration of the fact that

FIG. 108.



Epithelioma of cervical lip (after Byford).

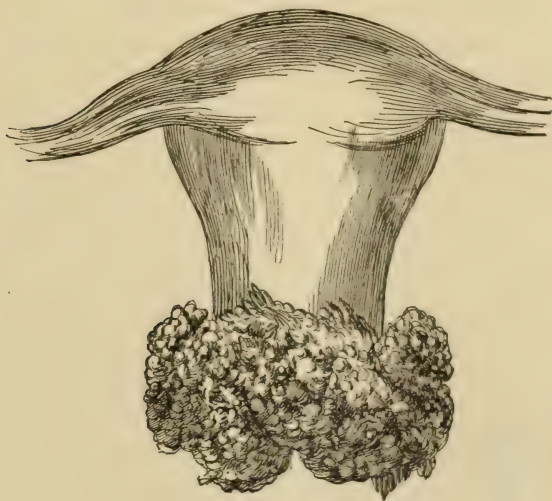
the various forms of cancer not unfrequently occur in combination, one portion of a tumor presenting, for instance, as in this case, a well-marked medullary character, and others that of lobular epithelioma. It, moreover, offers a fairly typical example of the ordinary course and symptoms of these two most frequent varieties of uterine cancer. Besides these, however, malignant disease may present itself in the uterus in the form of adenoid or cylindrical epithelioma. In the former varieties as well as in the rarer cases of scirrhus the disease is comparatively seldom met with in patients who have not already reached or passed the period of life at which the menstrual function ceases, or the menopause. And the same general

rule holds good with regard to the medullary form, of which, however, I have seen some exceptional cases in very early life, and even, as occurred in one pitiable instance in this hospital, in a girl only sixteen years of age. In the great majority of cases the subjects of every form of uterine cancer that have here come under observation, were married and generally fruitful women who had passed the menopause.

Every portion of the uterus is unquestionably liable to be the primary seat of cancerous disorganization. But as unquestionably in the vast proportion of cases such disease commences within the cervix, and remains there localized for a greater or

lesser time, according to the special form of the malignant disorder present in each case. This most important fact is one which I shall take as the text of the present lecture, in which I shall endeavor to show you the paramount importance of recog-

FIG. 109



Cervical encephaloid carcinoma.

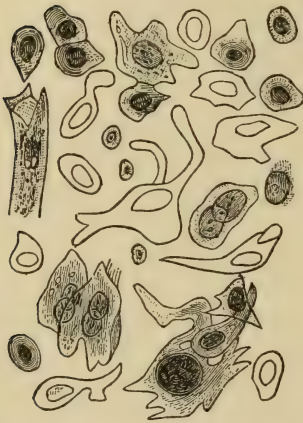
nizing and removing uterine cancer whilst it is still within the probable reach of cure, or, in other words, confined to the cervix uteri.

Diagnosis and Symptoms.—In no disease that comes before us in gynæcological practice is the importance of an early and accurate diagnosis so essential as in the case of uterine cancer. For if it be true, as I have just stated and must more than once reiterate in these lectures, that in the vast proportion of instances this malady commences in the cervix and is there, for a time at least, localized, and may be thence successfully extirpated before it invades the body or fundus of the womb, from which its removal can be attempted only by operations the risks of which are hardly balanced by any generally successful results, it is obvious that too much attention cannot be devoted to the timely recognition and treatment of cervical cancer. What I therefore chiefly desire to impress on you is the possibility of detecting the incipient

stage of malignant disease of the cervix long before either pain, hemorrhage, or any of its other characteristics are observable, which, as I think, is feasible by certain symptoms which were well described by the late Dr. Montgomery, but which are too often passed over by later writers, as well as also by microscopic examination. On careful exploration at an early period in such cases, the margin of the os uteri is found hard, and often slightly fissured. In the situation of the muciparous glands there are felt several small, hard, and distinctly defined projections, almost like grains of shot or gravel under the mucous membrane. Pressure on these with the point of the finger gives rise to pain or nausea. The circumference of the os uteri feels turgid, and to the eye presents a deep crimson color; while the projecting points have sometimes a bluish hue.

According to Professor Schuata, of Prague, it is possible to make an early diagnosis only by regarding every case of catarrh and erosion with suspicion, and by examining carefully as to whether we can discover on the surface of the erosion a small nodule projecting, which is dark red or yellowish red, bleeding very easily. These nodules seem at first quite innocent; never-

FIG. 110.



Scrapings from cancer (Hart and Barbour).

FIG. 111.



Encephaloid cancer (Godlee).

theless, when excised they present under the microscope all the characteristic signs of cancer of the uterus. The future of this disease will be better if we operate early. This, however, depends on our early diagnosis, and for this purpose the cautious employment of the curette so as to bring away a sufficient amount of the abnormal tissue for microscopic examination should be resorted

to in every case of suspected or possible adenomatous or cancerous degenerations.

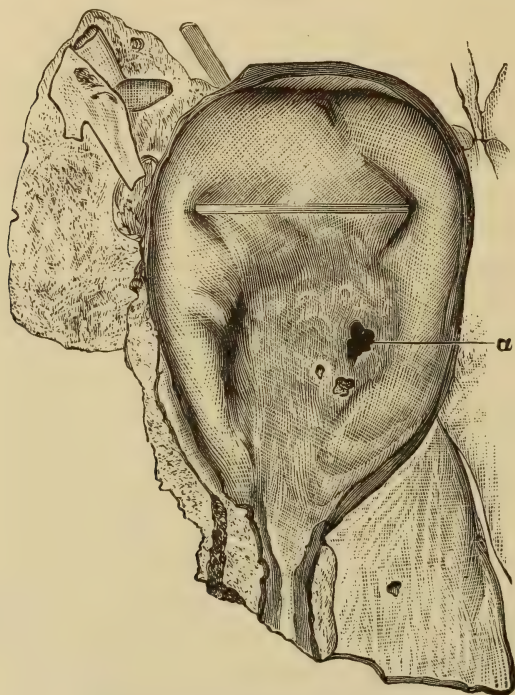
The general symptoms of the later stages of uterine cancer in its more common form and at the period when too often the disease is first brought under medical observation,—that is, when epithelioma has extended beyond the cervical zone,—viz., uterine hemorrhage, fetid discharge, and the usually though not invariably present pathognomonic burning pain, leave little room for doubt as to the nature of the case. These are further corroborated by the coexistence of emaciation, sharp, pinched, anxious facial expression, yellow, semi-jaundiced discoloration of the whole surface, and the well-marked hectic and other unmistakable evidences of the cancerous cachexia. Nor in this connection is it necessary to dwell on the evidences revealed by local examination, or the symptoms which are necessarily caused by the pressure of the enlarged, displaced, or adherent cancerous uterus, or consequent on the extension of the disease to adjacent parts. Once a cervical epithelioma has attained the ulcerative stage, there can be no question as to its detection, though then commonly but too late, when, on digital examination, the cervix is found lower than normal, the uterus being bound down in the pelvic cavity by adhesions to the surrounding tissues, the os open, its lips, if not already destroyed, tumefied, or else perhaps, should the case happen to be one of the scirrhus variety of carcinoma uteri, presenting the stony hardness characteristic of that form of disease. The cervical structure is frequently, however, more or less deeply excavated, occasionally the entire os and cervix being thus eaten away before any suspicion of the nature of the case has called for examination. By the speculum the characteristic, foul, irregular corroded ulcer, covered with a gray viscid putrilage, now comes into view; whilst, if any possible doubt could then exist, this would be cleared up by the presence of the peculiarly fetid ichorous or watery discharges attendant on open uterine or cervical cancer.

Immediate Causes of Death and Complications in Uterine Cancer.

—In the majority of cases of this kind, when the disease has been unarrested by treatment, death results from the constitutional cachexia occasioned by hemorrhage, pain, loss of rest, and irritative fever. Before, however, the patient's release from her

sufferings is thus effected, too frequently these are increased by the malignant contamination and structural disintegration of some of the adjoining parts. Among these complications the most formidable are those resulting from extension of cancerous disease from the uterus and vagina to the bladder or rectum, giving rise to perforation in either or both directions, and thus occasioning an intensity of misery from which death alone can afford relief.

FIG. 112.

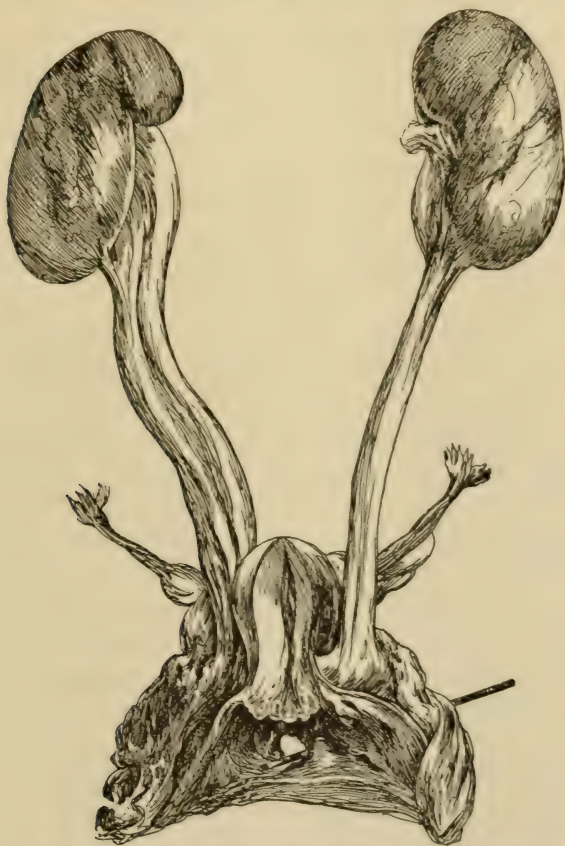


Carcinoma uteri ulcerating into bladder.

There is another though rarer complication that may occur in such cases, and to which attention was first directed many years since by Dr. Beatty in a communication to the Dublin Pathological Society. The cause of death thus alluded to depends on the manner in which in cases of carcinoma uteri the cancerous disease occasionally at the same time also attacks the bladder, and the rate at which ulceration succeeds to the malignant invasion of the tissues of the latter organ. In the majority of cases

the induration of the coats of the bladder first produces irritability of that viscus, with frequent desire to pass water; and, finally, ulceration having taken place, incontinence of urine results. But in some instances the contamination takes place more slowly

FIG. 113.



Cancer of the uterus extending to the bladder and blocking up the ureters (after Beatty).

and over a broader surface, and the openings of the ureters into the bladder become blocked up by the cancerous deposit, which extends even a short way into those canals. While this process is going forward, the urine discharged gradually diminishes in quantity, and at last is totally suppressed. The catheter may be passed through the urethra, but the bladder will be found empty. The kidneys, however, have not ceased to perform their function;

the urine is still secreted, and, finding no exit, it accumulates in the ureters, distending these canals and the pelvis of the kidneys to an enormous extent. The well-known consequences of such an obstruction now begin to develop themselves. Symptoms of uræmic poisoning appear, coma supervenes, and the patient dies. This is the most merciful manner in which the life of the unfortunate victim of this disease can be brought to a close; and when it so happens, it is a subject for much thankfulness. But too often ulceration proceeds at a rate too rapid to permit of this easy and unconscious descent into the grave; one or both of the blocked-up ureters are opened by the spreading ulceration, a sudden rush of urine takes place through the vagina, the coma gradually clears away, and the patient awakens up, to undergo the longer and more distressing career of decay and death that are now before her.

Methods of Treatment.—We have next to consider one of the most disputed and important questions connected with gynæcological practice,—viz., the treatment of uterine cancer. In these cases there is at least no lack of different therapeutic methods at our disposal, although one generally successful in the later stages of the disease yet remains for future discovery. These methods may be thus classified,—viz., first, the early excision of the cancerous cervix; secondly, the complete extirpation per vaginam or by abdominal section of the diseased uterus; thirdly, treatment by electrolysis; fourthly, the employment of caustics; and, lastly, the palliative methods with which in many instances we must rest content. Each of these plans must now be separately referred to.

Excision of the Cervix.—With regard to the amputation of the cervix in the early stage of uterine cancer, which I regard as the only generally successful mode of dealing curatively with this malady, the fact must not be lost sight of that in a very large proportion of instances the starting-point of the disease is distinctly traceable, as Dr. Emmet has pointed out, to pathological changes commencing within the cicatricial tissues, resulting from parturient lacerations in the cervix uteri. Dr. John Williams has clearly described microscopical evidences of the gradual transition from healthy to malignant structure in a case described in his Harveian Lectures; and Mr. Jonathan Hutchinson points out that in many cases the first stage of cancer is that

of inflammation, that all inflammations are infective, and that inflammatory processes may pass by almost imperceptible gradation into malignancy. "In more than three hundred cases of cancer of the cervix, of which I have notes," observes Dr. Reamy, of Philadelphia, "but one occurred in a virgin, and but ten in married women in whose cases I could obtain no evidence of abortion or child-bearing. Can any one deny that such facts point strongly to the local origin of cancer, in these cases at least? And can it be doubted that injuries inflicted upon the cervix during parturition have a direct or remote connection with this origin?" Many years earlier Professor Montgomery, in a paper on the "Incipient Stages of Cancer of the Womb," pointed out that, as a general rule, the first discoverable morbid change which is the forerunner of cancerous affections of the uterus takes place in and around the muciparous glandulæ, in the cervix and margin of the os uteri.

In this connection the position and surroundings of the uterus should be borne in view. Especially important, as Mr. Alban Doran has observed, are the recent researches of Mierzeiowsky and Leber on the dense network of lymphatic plexuses surrounding the cervix, and emptying their contents into two large trunks passing along the broad ligament to the obturator glands, and thus favoring the rapid extension of the cancerous elements into parts almost beyond the possibility of the complete removal of the infected tissues. There is, therefore, I fear, comparatively little to be ultimately gained by the more heroic procedure, and our main reliance must rest on the early recognition of the cervical disease and its prompt treatment by the amputation of the neck of the uterus above the limits of the cancerous infection, or, as may possibly be proved by future experience, from the employment of the electric current before referred to. In a large number of instances cervical epithelioma, if sufficiently early recognized, may, I believe, be completely arrested by the infra-vaginal amputation of the cervix and the free cauterization of the stump, without the necessity for resorting either to Schroeder's flap operation, or to the supra-vaginal method of accomplishing the amputation of the uterine neck, the mortality from which was four in thirty-seven.

Rokitansky remarked that cancer of the uterus generally limits

itself to the vaginal portion and cervix in a defined and sharp manner. And he further observes, "The primitive seat of cancer is always the cervix uteri, and first of all the vaginal portion. The primary appearance of cancer in the fundus uteri is limited to such extremely rare cases that what we have just said remains a fixed rule." Sir James Simpson held the same view, and in support of it quoted Dr. Walshe's observation: "Uterine cancer is commonly primary, and possessed of comparatively slight tendency to contaminate the system generally. In two important respects, therefore, uterine cancer presents conditions favorable for surgical interference. Still, however, in order that a case may offer any chance of success, several conditions seem requisite,—viz., the disease must be in an early stage; and secondly, the morbid structure must be distinctly situated below the line of reflection of the vagina upon the cervix uteri. The above combination of circumstances is seldom met with, because the medical attendant is rarely consulted until the disease has passed the limits in question." Nevertheless, of eight cases referred to in Simpson's monograph, in which he thus amputated the cervix, seven recovered perfectly.

At a meeting of the Obstetrical Society of Berlin, Hofmeier reported the results of a large number of cases of this kind, including one hundred and eighteen partial amputations, with ten deaths,—mortality 8.5 per cent.; and forty-eight total extirpations, with twelve deaths,—mortality 25 per cent.

Four years previously Pawlik published a report of one hundred and thirty-six cases of cancer of the cervix which had been treated in the first gynæcological clinic of Vienna by means of the galvano-cautery. The mortality from the operation was apparently not over three or four per cent. By amputation with the hot iron, Schroeder, out of thirteen cases, had an operation mortality of 7.7 per cent., and of the survivors 42 per cent. remained well at the end of from eighteen months to two years.

Carl Braun and Simpson cite instances of patients who were operated upon in this manner, and who had continued alive and well for a quarter of a century. A few years ago this subject was discussed in the London Obstetrical Society, where Dr. Godson exhibited specimens from cancerous cervixes which he had amputated, and in which there had been no recurrence of

the disease after a lapse of six and three and a half years respectively after the operation.

Dr. S. Mason, of Dublin, says: "If cancer has commenced in the vaginal portion of uterus, and the walls of vagina are not involved, or in the mucous membrane lining cervical canal, and has not extended too far upward, either the vaginal or supra-vaginal operation is, I believe, the best, on account of its small mortality. If the disease is situated in the body of the uterus, or, though commencing in cervical canal, it has extended too far upward to allow of supra-vaginal operation being carried out, then, I hold, there is no choice but to remove the entire organ. The vaginal method of operating, on account of its smaller mortality, should be selected. As to recurrence of the disease, the results after operations on cervical portion of uterus are most encouraging. In one case the patient went nineteen years after operation without the disease recurring. In the first case which I described it is now almost three years since the operation, and she remains in good health."¹

A similar conclusion is supported by many modern authorities, and, as Hart and Barbour point out, we may, in accordance with the researches of Klebs, Waldeyer, Virchow, and others, generally trace the origin of uterine malignant growths either to the cervical epithelium of the cervical glands, the deepest layers of squamous epithelium on the vaginal aspect of the cervix, the connective-tissue cells of the cervix, or the epithelium of the cervical canal. With regard to the subsequent course of the disease, however, the evidence of later authorities is less unanimous and less satisfactory on this point. Thus, for instance, Dr. John Williams maintains that the disease does not tend to spread upward from the cervix, but rather laterally towards the broad ligaments and the vault of the vagina.

According to Kuge and Veit, cancer of the portio vaginalis has a very slight tendency indeed to spread into the cervix, but almost invariably spreads out laterally into the fornices of the vagina and the ligaments. "What possible advantage, then," asks Dr. Duncan, "can be expected in these cases by removing the uterine

¹ Mason, in Transactions Royal Academy of Medicine, Ireland, vol. ix. p. 298.

body (which is unaffected) over that gained by the supra-vaginal amputation, which gets rid (as far as the uterus is concerned) of the disease? On the other hand, cancer of the mucous membrane of the cervical canal spreads up along the canal and into the uterus, whilst it only at a late period (or even not at all) attacks the os uteri."

Recurrence after amputation takes place, as a rule, in the neighboring connective tissue, and but rarely in the stump; hence Schroeder's preference for supra-vaginal amputation of the cervix. Dr. Abel, after examining seven uteri extirpated by Professor Landau for cancer of the cervix, found malignant degeneration of the endometrium in all. On the other hand, Dr. Fränkel examined six cancerous uteri, and found that, whilst the cervix was cancerous, the uterus was affected with glandular and interstitial endometritis; in other words, the endometrium was not cancerous. On the ground of the general pathological changes which he detected, he nevertheless advocated total extirpation of the uterus.

Dr. Klein in similar cases observed changes in the endometrium which he held to be inflammatory, not malignant, yet insisted that total extirpation was demanded in cancer of the cervix whenever that severe proceeding was practically feasible. "Consistency of principles as applied to the results of observations," adds a recent editorial writer in the *British Medical Journal*, "therefore rests with Dr. Abel and Dr. John Williams; unfortunately, their conclusions are diametrically opposite. We need more observations on the condition of the endometrium in cancer of the cervix, and more records of after-histories where either of the above-mentioned operations has been undertaken with success." In this, however, lies the main difficulty with regard to this question, it being, as a rule, as I have found by long experience, extremely difficult to follow the history of our hospital cases once they are lost sight of after their discharge from the wards.

In twenty-two instances, however, in which I was able with more or less accuracy to trace the after-history of cases in which I amputated the cervix by infra-vaginal operation for cancer or for what I believed to be carcinoma, the results were as follows. In all these instances the patients thus treated recovered from the immediate effects of the operation, and were discharged as convalescent. In four of them the disease recurred either in the uterus

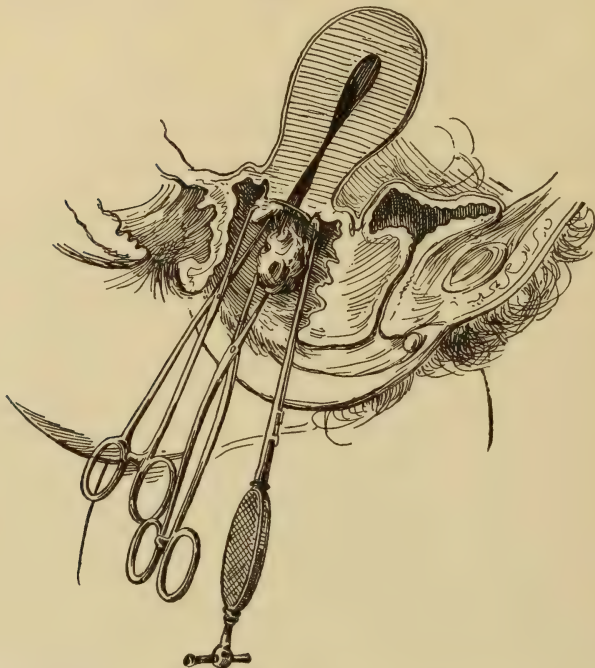
or elsewhere within a year ; in two it returned within two years ; in one instance the patient returned two and a half years subsequently with a large cancerous ulcer of the leg, from which she died shortly afterwards. In another it recurred two years later. Fourteen cases have continued, so far as could be learned, in good health after the operation.

These results must, I think, considering the nature of the disease for which the operation was resorted to, and the results of other methods of treatment, be regarded as fairly satisfactory, and contrast in this respect with those of the supra-vaginal operation, of which my own experience has been more limited and less successful. The question, however, of the general expediency of these respective plans of treatment in cases of uterine cancer can be determined only on principles similar to those which are commonly recognized and acted on in the treatment of other forms of malignant disease. Thus, for instance, no surgeon would be justified in amputating the cervix in cases where cancerous cachexia was well established, or where the disease either was developing with unusual force and rapidity or had evidently extended beyond the cervical zone.

Infra-Vaginal Amputation of Cervix.—Without further reference, therefore, to the comparative advantages of the two operations, by which, as I have just said, the removal of the affected cervix may be accomplished, viz., by the infra-vaginal and the supra-vaginal methods, as of these, under ordinary circumstances, I much prefer the former, I shall now confine myself to its consideration. In the performance of this operation we may use the knife, scissors, or galvano-cautery, or ordinary chain or wire écraseur, with satisfactory results, although the use of the latter was long since objected to by the late Dr. Marion Sims, on the ground that it makes a lacerated surface to heal by granulation, which takes a long time, often leaving the os tincæ contracted. Another objection urged to it is the uncertainty as to where we place the chain, which may draw in more tissue than we intend and remove more than we wish. So great has been this trouble that some surgeons have given up the écraseur altogether in operations on the neck of the womb, the attachment of the bladder and in some instances the posterior cul-de-sac of the vagina having been injured, and even the peritoneal cavity opened by its greedy

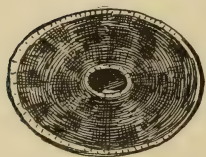
grasp. In my use of the steel wire écraseur I have not observed the occurrence of the mishaps thus referred to.

FIG. 114.



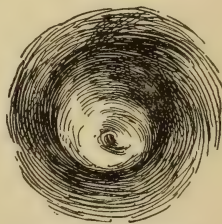
Removal of cancerous cervix (from case in Dr. More Madden's wards, by J. McGee).

FIG. 115.



Cervix after operation.

FIG. 116.



Cervix a year later.

In the subjoined sketches one of our residents, Dr. J. McGee, of Melbourne, has delineated the method of removing a cancerous cervix with the écraseur (which, followed by use of the cautery, is preferable to either Schroeder's or Sims's flap operations in

such instances) and the subsequent results, immediate and secondary, exemplified in cases recently brought under your clinical observation.

In amputation of the cervix, the patient being in the ordinary lateral semi-prone position and the parts exposed by the duck-bill speculum, the uterus should be drawn down by forcible traction with a strong vulsellum until the cervix protrudes beyond the vulva, so as to elongate the structures and allow of the wire of the *écraseur* being applied well above the diseased portion, and above this, again, the uterine neck should be transfixed by a stout wire ligature, to prevent subsequent retraction and facilitate the full use of the thermo- or galvano-cautery which I regard as essential. The advantages following the use of the actual cautery after removal of the cervix for cancerous disease are, I believe, unquestionable, and may probably be due to the creation thereby of an adventitious fibrous tissue of low vascularity, which is more or less refractory to morbid change, and acts as a barrier to the recurrence of the disease.

LECTURE XIX.

TREATMENT OF MALIGNANT DISEASE OF THE UTERUS : HYSTERECTOMY.

GENTLEMEN,—The radical treatment of uterine cancer by the complete removal of the diseased organ is one of the many ancient surgical procedures which have been successfully revived within our own time, having been originally suggested and performed by Zacutus Lusitanus in 1640. The earlier literature of the vaginal operation for extirpation of the cancerous uterus was ably reviewed by Dr. Condie in the American edition of Churchill's work on "Diseases of Women." As this matter bears directly on the practical question under consideration and is now generally ignored, I may here briefly recapitulate some of the facts there referred to. One of the first surgeons who performed this operation was Palletta. Subsequently it was performed twice by Siebold, four times by Blundell, once by Barnes, once by Lizars,

thrice by Récamier, thrice by Langenbeck, and once by M. Delpech. Of the nineteen patients thus treated sixteen died in consequence of the operation, one as late as the fourteenth day, most of them on the following day, or the third at the latest, and some in a few hours or even a few moments after the operation.

The generally unfavorable results of these early hysterectomies led to the almost complete abandonment of this method of treating uterine cancer for upward of half a century, when it has once more come into prominence, owing largely to the more successful results attending its vaginal performance in the hands of Dr. Martin, of Berlin, and others. And at the present time the total extirpation *per vaginam* of the cancerous uterus is advocated by Keith, Martin, and many other surgeons as a general rule of practice, and as a better operation than the partial removal of the organ. "No one," says the former authority, "nowadays thinks of removing a bit of a cancerous mamma. To remove as much of the uterus as is possible without opening into the peritoneal cavity, and then to follow up the disease of the cavity by the free use of the cautery, seems to me to be monstrously bad surgery. If the disease be confined to the lips it may be sufficient to stop at the internal os, but even this is not free from some danger." For my own part, I cannot agree with this opinion, having in a good many cases of cancerous disease found the early removal of the affected cervix to which the disease was limited followed by apparently permanent restoration to health, and at any rate, when failing in this, if properly carried out, free from any immediate untoward consequence.

In the following observations, as my performance of hysterectomy in the treatment of uterine cancer by abdominal or vaginal methods has been confined to cases in which, the disease being beyond possibility of benefit by amputation of the cervix, I was perforce obliged thus to remove the uterus, I shall endeavor to put before you also the experience and methods of those who make such operations a specialty, or who have more faith in their general utility than I have. Although we have already devoted so much time to the treatment of uterine cancer, it would be impossible in these lectures to avoid referring at some length to the technique and results of the two methods of extirpating the uterus—viz., by abdominal section and by vaginal hysterectomy

—that may be resorted to, so far at least as will enable you to understand distinctly the chief features of both these methods.

Hysterectomy by Abdominal Section.—My experience of what is called “Freund’s Operation” being similar to that of many other surgeons, by whom a few years ago it was more largely resorted to, and by most of whom, although less difficult than vaginal hysterectomy (and possibly capable of some future improvement), it has been generally abandoned, owing to its terrible mortality,—viz., over seventy per cent.,—I need not occupy much of your time with this subject. It will suffice to say that in this operation, the abdominal cavity having been first laid open as in ovariectomy, the broad ligaments are then transfixed and ligatured in two or three portions on either side, so as to secure the Fallopian tubes and ovaries above the sutures and to seal the ovarian and uterine vessels, the lower ligatures being brought out into the vagina. The uterus is now cut away from its vaginal and ligamentous connections and withdrawn through the abdominal wound, which is subsequently closed as in ovariectomy, whilst the ends of the remaining ligatures in the broad ligaments are brought down into the vagina. Above this the anterior and posterior layers of peritoneum are previously brought together by silk or gut sutures so as to close the peritoneal cavity. Finally a drainage-tube is left in the vaginal wound.

Vaginal Hysterectomy.—This may be accomplished either by Péan’s operation, which has been previously described (see p. 200), or by the method practised by Martin, of Berlin, or by that of Schroeder.

Martin’s Operation.—For this purpose, as stated by Dr. Macan, “the vagina having been first thoroughly disinfected, a Fritsch’s speculum is inserted and the posterior cervical lip drawn downward and forward by a vulsellum. An incision is now made around posterior margin of cervix till the peritoneum is reached. The edges of the vaginal wound are then sewn parallel to the incision, to bring peritoneum and vaginal wall together and so arrest hemorrhage. The forefinger of left hand is then inserted into Douglas’s space, and, the neck of uterus being drawn to the right side, a ligature of double silk is passed under guidance of the finger through the lower part of the left broad ligament and tied firmly. A second and third are similarly tied, each including

a higher portion of broad ligament. This process is repeated on the right side. The central fissure is now incised, and the bladder separated from the uterus as far as the uterine peritoneal reflection, and as much as possible with finger and handle of knife. The next step is to free the cervix on each side from the broad ligament as far as they are commanded by the sutures. While doing this each vessel should be tied separately as it is cut through. The forefinger is again inserted into Douglas's space, and passed over the broad ligament into utero-vesical pouch, and the peritoneum in this position divided on the finger. The fundus is now retroflexed—if possible bimanually—and drawn out through the opening in the posterior cul-de-sac. This brings the remaining portion of broad ligament into reach. Round this, under guidance of the finger, a ligature is passed and tied first *en masse*. A double ligature is passed through centre of pedicle, but nearer to uterus than the last, and each half is tied separately. The uterus is now freed on this side, all vessels that are seen being ligatured separately, and the same thing is repeated on the remaining uterine attachment. When this last is cut through, the uterus is quite free, and can be removed. During all this time the wound in the vagina is irrigated by a stream of warm water. As soon as the uterus is removed a search is made for any bleeding points, which are sewed, and the parts are washed out. Dr. Martin then inserts a large drainage-tube into Douglas's space, and so finishes the operation.¹

Schroeder's Operation.—A very succinct account of the method of performing vaginal hysterectomy by Schroeder's operation has been given by Mr. Reeves, of the London Hospital, of which Dr. McNaughton Jones's abstract may be here quoted.

"The full details," says Mr. Reeves, "of Schroeder's vaginal operation for removal of the entire uterus I do not enter into in this work. These have to be most carefully studied, and the operation performed a few times on the cadaver by any one undertaking it for the first time. This may be readily inferred when we reflect on the steps of the operation :

"1. Separation of the cervix from the bladder, as in the supra-vaginal operation, the ureters and peritoneum being avoided.

¹ "Vaginal Extirpation of the Uterus," etc., by A. V. Macan, M.D., Transactions Royal Academy of Medicine, Ireland, vol. vi. p. 232.

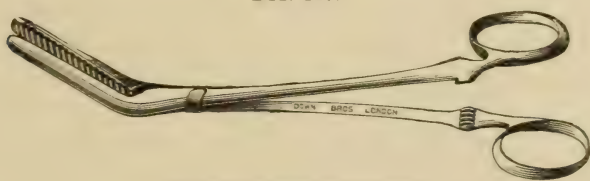
"2. Opening of the pouch of Douglas through the posterior vaginal vault, and detachment of the peritoneum at either side with the fingers.

"3. The opening of the peritoneum anteriorly, which is effected either by introducing the finger through the posterior wall into the utero-vesical pouch and cutting on these through the anterior wound, or a blunt expanding perforator (Reeves) may be used to make the opening and admit the fingers, so that the peritoneum may be torn to the desired extent.

"4. Retroflexion of the uterus, and forcing of the fundus through the posterior wound. If the uterus is large, a forceps is used to bring the uterus to the vulva.

"5. Ligation of the broad ligaments, and possibly removal of the ovaries and Fallopian tubes." (With reference to this part of the operation, Mr. Reeves urges the advantage of using his hysterectomy compression forceps (clamp forceps) to secure the broad ligaments at either side of the uterus before their division.

FIG. 117.



Reeves's hysterectomy forceps.

These forceps are permitted to remain on to the morning of the third day, and partly act as drains after the operation. In their application care has to be taken to avoid intestine. Their application, Mr. Reeves contends, lessens the danger of shock and hemorrhage, and considerably shortens the operation.)

"6. Careful antiseptic dressing of the vagina and drainage of Douglas's sac."

According to Martin, the technique of the operation itself has undergone only immaterial changes, as is shown by the results of different operators using various methods. It matters not whether the uterus be removed by an incision made in front of, at the side of, or behind the neck. It is of little importance whether hemorrhage be prevented by stitches introduced before the incision, or each separate vessel be seized and tied as it bleeds. It is

immaterial whether the uterus be turned over or removed by drawing it down and freeing it; whether the opening in the floor of the pelvis remain open or be closed, or be drained either with iodoform gauze or with a tube.

In this connection may also be cited Dr. Gusserow's and Dr. Martin's conclusions on this subject, not that I myself by any means altogether agree with them, but because it is well that you should be acquainted with the views of probably the highest authorities on the question. Gusserow (*Berlin Klin. Woch.*, 1891, s. 1125) expresses his settled opinion that in every case of malignant disease of the uterus total extirpation of the organ is indicated, and the only question is whether and when this is practicable and rational. Supra-vaginal amputation of the cervix he rejects absolutely. Success in the operation he thinks very little dependent upon technique, but chiefly on the proper selection of cases: that is, on the early performance of the operation; on early diagnosis. It must be done while the disease is limited to the uterus, so that in the operation we have to deal with healthy tissues.¹ Whilst Martin thus equally emphatically states the same opinion: *I recommend the vaginal extirpation of the uterus as the operation, as the means, which we ought to apply in cases of cancerous diseases of the uterus, as long as the disease is limited to the uterus itself.* If it be easily practicable I advise that the ovaries and tubes be also removed. At all events, bleeding must be entirely stopped; during convalescence the parts must, as much as possible, be kept at rest. Washing out the peritoneal cavity does not work favorably. However the opening in the floor of the pelvis is treated, a smooth scar is finally formed, into which the roof of the vagina curves upward. If the patients do not become septic or get any other complication, they make an extraordinarily easy recovery. They recover their color and strength, and, after the symptoms of the sudden change of life have been overcome, they seem to enjoy life fully. There is no observation showing that after removal of the uterus, with or without the tubes and ovaries, the patients lose their sexual feelings or their peculiar feminine form.

On the results of total extirpation of the cancerous uterus per

¹ *Vide Year-Book of Treatment for 1893*, p. 325.

vaginam a discussion was initiated at the Berlin meeting of the International Medical Congress, in which I took part in a paper, by Dr. John Williams, whose address clearly proved that all cases are unsuitable for operation where the disease cannot be entirely removed or where neighboring organs are invaded. In cancer of the body of the uterus, the volume of the organ gives an important indication: where the fundus does not rise above the pelvic brim, the organ can be removed by the vagina, but by the time that the fundus has reached the umbilicus vaginal extirpation has ceased to be possible. In regard to cancer of the cervix and of the vaginal portion, opinions at present differ widely, and Dr. Williams maintains that we cannot as yet determine definitely in what cases total extirpation should be performed, and further points out the great difficulty of making out whether the disease has spread beyond the uterus in early cases, and the necessity for the most careful examination being made before operative interference is determined upon.

On the other hand, in a subsequent paper Professor Shauta advocates total extirpation even in limited cancerous implication of the vaginal portion of the uterus, and is only dissuaded from this by any deep extension of the malignant disease the superficial spread of which does not, he says, contra-indicate operation.¹ Similar views are expressed by Professor Péan, of Paris, and these are supported by the decreased mortality attending this operation within the last eight years, up to which time, according to Dr. William Duncan, it had been 28.6 per cent., whilst, according to the statistics of Münchmeyer, Kaltenbach, and Péan (as cited by Dr. Cullingworth in the Transactions of the Obstetrical Society, London, p. 11), the more recent mortality of vaginal hysterectomy for cancer is only 17.3 per cent. From my own experience, however, I would be inclined to take a much less favorable view of the general results and expediency of this operation, and to agree with Dr. H. C. Coe in his recent paper in the *American Journal of Obstetrics*, condemning it in all except the most limited cases of malignant disease of the cervix or of the corporeal endometrium. His experience of the operation extends to nineteen cases, of which five were corporeal, fourteen

¹ Archiv für Gynäk., Bd. xxxix., Heft i.

cervical (twelve of the cases were operated on by Dr. Hunter). The results are not encouraging: died from the operation, six; recurrence within eighteen months, one; within twelve months, one; within seven months, two; within six months, one; within two months, three; not heard from, one; well at the end of ten months, one; too soon to determine, three.

I cannot attempt here to discuss at full length the respective advantages or demerits of either abdominal or vaginal hysterectomy or of the various modifications of these operations in the treatment of uterine cancer. The former is unquestionably the more facile method, but the latter is decidedly a far safer procedure. Moreover, in favor of its ultimate results, the exceptional experience of Keith and Martin cannot be lost sight of. According to the last named, in forty-four cases during a period of seven years, the results, excluding the immediate mortality of the operation, were nine relapses within the first year, four relapses at later periods, and thirty-one recovered up to the date of the report.

In a valuable communication to the London Obstetrical *Transactions*, "On the Extirpation of the Entire Uterus" in certain cases of cancer, Dr. William Duncan collected from various authorities the particulars of a large series of cases of these operations, of which one hundred and thirty-seven were by the abdominal method, with ninety-nine deaths (being a death-rate of seventy-two per cent.), and two hundred and seventy-six were cases of vaginal extirpation, with seventy-nine deaths (being a death-rate of 28.6 per cent.).

"Owing to the frightful mortality attending the abdominal operation for the removal of the cancerous uterus," says Dr. J. Reeves Jackson, of Chicago, in an able paper read before the Washington meeting of the International Medical Congress, "not less than seventy-two per cent., and probably considerably more, it has been generally abandoned, except in a comparatively small number of cases in which the vaginal method is inapplicable."

It must be admitted, however, that in the hands of some eminent specialists the mortality of this operation has steadily diminished year by year. But although in the case of a few operators a great improvement in this respect has unquestionably occurred, we have yet no proof that this is generally the case.

And, as Sanger has observed, in those who survive the operation, recurrence takes place on an average in about four months, and death in fourteen months. The conclusions with regard to the expediency of the entire extirpation of the cancerous uterus, arrived at by Churchill and Gendrin some forty years ago, are thus only too well borne out by the general results of the better and more scientific methods now employed for the same purpose, and may be here cited. "After," says the former, "a careful examination of the results of the operation, when the uterus is *in situ*, it is really difficult to find adequate reasons in its favor, except the repugnance which every one must feel to give up entirely the hope of affording relief from the most agonizing sufferings to which the female sex is exposed." "It is evident," observed M. Gendrin, "that the extirpation of the uterus is one of the gravest and most painful operations in surgery, since it is most fatal. It ought not to be undertaken except with great prudence, nor unless it is probable that the disease is perfectly removable. The signs of this limitation of the disease to the uterus, and of its mobility, are to be acquired by the use of every mode of examining the uterus, but, unfortunately, these means are not always trustworthy. Very able men have overlooked the extension of the disease to the ovaries and Fallopian tubes, which are often attacked when the body of the womb is affected. We must conclude that in many cases it will be wiser to abstain from the operation."

I would, therefore, again remind you that even in extensive carcinoma of the uterus, in which the cavity was filled and enlarged by the malignant villous outgrowth, and the patient exhausted and miserable from the pain, hemorrhage, and fetid discharge, I have, without resorting to extirpation, in several instances succeeded not only in relieving those symptoms, but also, as I believe, in materially prolonging the life of the patient, simply by thoroughly scooping out and removing the diseased structures. In two of these cases almost all the uterine parenchyma was thus so extensively scraped down as to leave only a thin subperitoneal shell, and, after curetting, the raw surfaces were treated with chloride of zinc. It should be added that, although the disease ultimately returned, and that generally within a year, save in one case in which the patient survived for upward of two years, yet

the amount of comfort and relief to mental distress, as well as to intense physical suffering, thus afforded, was beyond question. At the same time there can be little doubt as to the propriety, in some urgent and otherwise unrelievable cases of fundal uterine cancer, of resorting to whatever measure may afford any reasonable possibility of protracting life or of relieving suffering. Under such circumstances extirpation may be expedient, even if not capable of effecting in our hands all that has been obtained in Berlin or elsewhere by this operation in the practice of Professor Martin and others. But at the same time, whilst fully recognizing his high authority on this subject, I would venture to reiterate my dissent from the sweeping conclusion which I have before quoted and which Dr. Martin has formulated in a paper in the *Transactions* of the last International Medical Congress, in which he says, "I recommend the vaginal extirpation of the uterus as the operation and the means which we ought to apply in cases of cancerous diseases of the uterus, as long as the disease is limited to the uterus itself."

For my own part, bearing in view the enormous mortality too commonly supervening in operations for the extirpation of the cancerous uterus, whether by abdominal or vaginal methods, as well as the frequent recurrence of the disease in those who survive the immediate consequences of such operations, I cannot regard their employment, as yet at least, proven to be expedient or justifiable as a general rule of practice in cases of uterine cancer.

LECTURE XX.

TREATMENT OF MALIGNANT DISEASE OF THE UTERUS (CONTINUED): PORRO'S OPERATION FOR CARCINOMA AND SARCOMA OF GRAVID UTERUS, ETC.

GENTLEMEN,—The *Porro-Müller operation*, or the excision by abdominal section of the gravid uterus, which is generally known by the name of the operator, Professor Porro, of Pavia, by whom it was first successfully accomplished in 1879, was previously performed by Dr. H. Storer, of Boston, and has subsequently been

considerably modified and improved by Freund, of Breslau, and Müller, of Berne, to whose method I have myself resorted in three cases of pregnancy complicated by urgent symptoms occasioned by malignant disease of the fundus or body of the uterus. Premising that Müller's modification of Porro's operation consists in making "a large abdominal wound with the view of lifting the gravid womb out of the abdomen, and to secure the cervix by the wire *écraseur* or the Esmarch bandage prior to opening the cavity and removing the child," I may now describe the steps of this operation as further modified by myself in the cases referred to.

The preliminary measures—directions concerning preparations for operation, arrangement of operating-room, position of patient, choice of anæsthetics, and antiseptic precautions—necessary in a case of Porro's or Müller's operation, being identical with those which will very fully be described in my subsequent lecture on ovariectomy, need not be here detailed. Taking it for granted, therefore, that all these have been thoroughly carried out, and that the patient has been placed in proper position on the operating-table, her bladder emptied by catheter, and she brought fully under the influence of the anæsthetic, we may now proceed to consider briefly the successive steps of this operation.

1. The incision through the abdominal wall by which the peritoneal cavity is to be laid open and the uterine tumor exposed, extending along the *linea alba* from an inch below the umbilicus to an inch above the pubis, differs from that generally required in ovariectomy in being necessarily of much greater length, so as to facilitate that free intra-peritoneal manipulation by which in the Porro-Müller operation the uterus must subsequently be liberated from its connections or adhesions, and the broad ligaments and cervical pedicle be securely ligatured and divided.

2. As soon as the uterus has been thus brought into view all peritoneal connections or adhesions between the uterus and other viscera should be very carefully separated,—digitally, if possible,—any bleeding points thus occasioned being at once caught and retained in the grip of pressure-forceps until securely ligated. In this stage of the operation the greatest caution is necessary to avoid injury to the bladder or the inclusion of the ureters in any ligature.

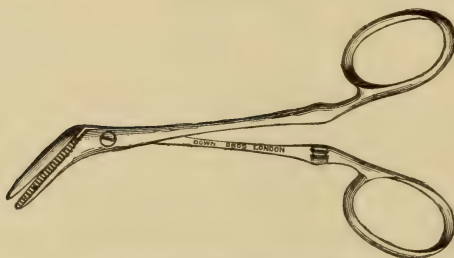
3. The uterus is now to be drawn firmly—by the hand if possible, by the vulsellum if necessary—upward and forward, so as to put the broad ligaments and cervix somewhat on the stretch.

FIG. 118.



Tait's pressure-forceps.

FIG. 119.



Wells's curved pressure-forceps.

FIG. 120.

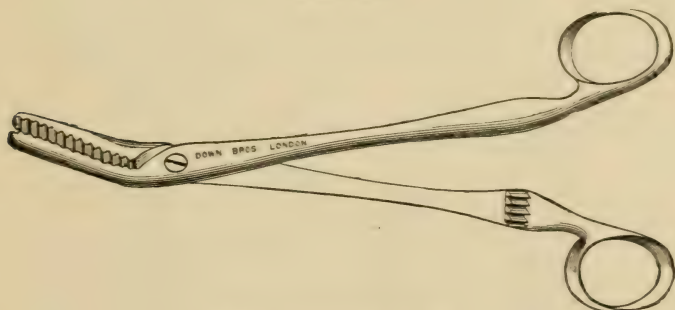


Thornton's pressure-forceps.

4. The broad ligaments are then to be *seriatim* transfixed by a blunt pedicle-needle armed with double strong silk sutures, by which the ligaments should be firmly ligatured in two or three divisions, and immediately below these another stout ligature should be as tightly as possible encircled around the whole ligament on either side. These last ligatures must be then confided

to the care of an assistant, by whom, before the closure of the wound, the divided broad ligaments should be again drawn into view before the sutures are cut, to make sure that the included vessels are effectually closed. The same object may also be accomplished by the use either of Wells's compressing forceps or of Storer's shield-clamp.

FIG. 121.



Wells's compressing forceps.

5. The broad ligaments may now be divided by scissors below the ligature on each side of the uterus, which together with the included ovaries and Fallopian tubes will then be free, except through the cervical attachment.

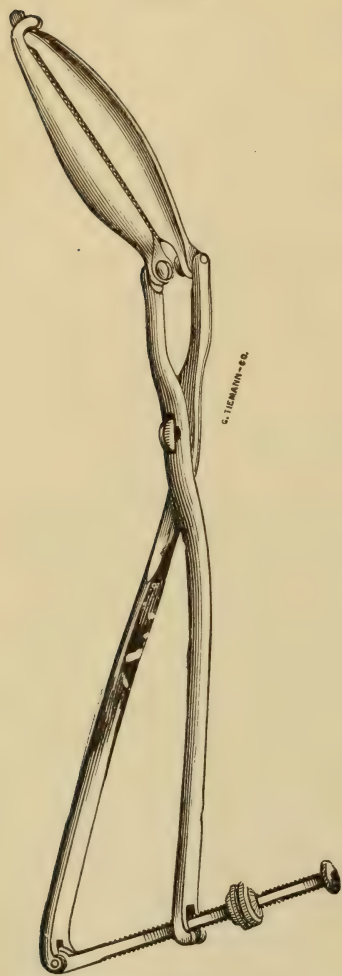
6. The uterus should next be drawn as far as may be through the abdominal wound, so as to put the cervix on the stretch. The latter should then be caught in a strong clamp-forceps, as far from the uterus as may afford room for the passage through the cervix of the pedicle-needle armed with double wire or silk sufficiently strong to bear that amount of force by which alone the ligatures can be so tightened as to prevent risk of slipping and consequent hemorrhage from the subsequent retraction of the included tissues. In this way the cervix must be ligated in two portions. Below these ligatures two transfixion-pins must be passed at right angles through the cervix, which again, below these pins, must be encircled by a properly carbolized, stout silk or whip-cord ligature.

7. Above all these ligatures the uterine cervical zone should next be slowly divided by a strong and thoroughly aseptic scissors and removed.

8. The cervical stump or pedicle may then be treated either,

as in my last case, by searing it over with actual cautery, or by closing it by the flap method with fine silk or carbolized gut sutures. The clamp-forceps can subsequently be relaxed, and if there be no hemorrhage the cervical stump should be secured, either by transfixion-pins or by a

FIG. 122.



Storer's shield-clamp.

FIG. 123.



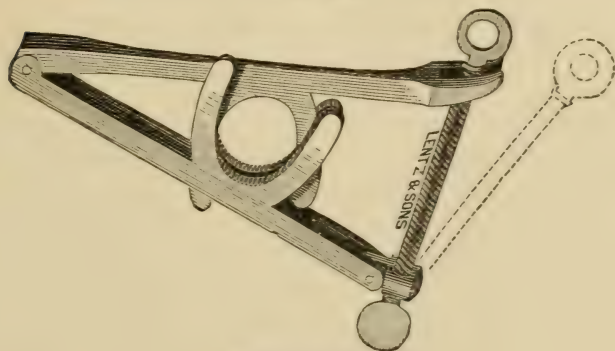
Wells's clamp-forceps.

suitable clamp, in the lower angle of the abdominal incision, where, after the closure of the upper part of the wound, having been freely dusted with iodoform, it must remain to be treated extra-peritoneally.

9. The abdominal cavity is now to be flushed out with warm

boric solution; after which, the sponges and pressure-forceps being previously carefully counted to prevent risk of any being left behind, and the ligatures having been also looked to, the abdominal wound may be closed and dressed as in an ovariectomy

FIG. 124.



Thomas's clamp.

case, with one important exception,—that is, in Porro's operation the lower angle of the incision must remain unclosed to allow space for a drainage-tube as well as for the cervical pedicle, which, as before said, must be treated by the extra-peritoneal method. This is conceded by the majority of authorities, although my friend Dr. McArdle, of Dublin, who is himself a very successful operator, still rather favors the intra-peritoneal method in this operation as in ovariectomy. One of the many differences between these procedures is, however, the great difficulty in preventing hemorrhage from the pedicle in the former; and hence the advantage of keeping the cervix in Porro's operation in view or extra-peritoneal in case any such hemorrhage should occur. It is needless to add that neither during nor after any operation is unremitting attention to perfect asepsis and to all antiseptic precautions more essential than in that which I have now described my method of performing.

The following account of one of my cases of removal by laparotomy of a gravid sarcomatous uterus will, I think, sufficiently illustrate this operation. In this instance, in which I had the advantage of the assistance of my colleagues Messrs. Hayes and Coppinger, as well as that of Dr. Duke and Dr. McArdle,

of Vincent's Hospital, the case was complicated by the coexistence of no less than three large subperitoneal sarcomatous growths, one of which was of enormous size and was with some difficulty dislodged from its attachments in the pelvic cavity. The operation was performed in the method which I have described. On the uterus being exposed it was, moreover, found thickly studded over with small budding fibromata in different stages of development. Nevertheless, comparatively little blood was lost, although the operation was protracted by the difficulty, from the friable and disintegrated state of the tissues, in securely ligaturing the enlarged uterine and ovarian vessels in the broad ligaments. The cervical stump was carefully covered over by peritoneum, the abdominal cavity washed out with warm water, and the ligatures brought out through a flexible drainage-tube in the lower angle of the wound, which was closed in the usual way. The patient was then replaced in bed, thirty-five drops of laudanum being at the same time given as a stimulant and to allay pain, and repeated in fifteen-drop doses every third hour subsequently. Milk and brandy were administered, which she took freely. She had a fairly good night, though little sleep was obtained. Next morning, January 31, her general condition and aspect were good; she was cheerful and complained of little pain; pulse 120, temperature 100°. The kidneys acted, though secretion was somewhat scanty, the catheter being passed at regular intervals. That evening there was some tympanites; pulse 140, temperature 100.2°. The opiate was continued.

February 1.—Had about an hour's sleep during night; in other respects apparently doing well; pulse 120, temperature 99.2°. That evening temperature rose to 101°, pulse 140; became restless and had an uneasy night.

February 2.—Considerable restlessness and moaning, though no pain complained of; had some retching; pulse not so strong, 130, temperature 99.2°. The discharge from drainage-tube having slightly soiled lower portion of dressing, the wound was redressed and looked fairly healthy; the drainage-tube was aspirated and its free end placed in a vessel of carbolic solution. After the dressing the patient expressed herself as comfortable and took fluid nourishment well. A drachm of sulphate of magnesia in hot water was ordered to be given every third hour until the bowels were

relieved, and, as the pupils were slightly contracted, opiate to be discontinued for some hours.

To the above report I regret to have only to add that the patient died on the fifth day after operation.

In April, 1893, I performed a similar operation, with the assistance of my colleagues Drs. Lentaigue and Coppinger and also Dr. A. Smith, of Vincent's Hospital, in the case of a patient aged thirty-six, and two months pregnant, for a fast-growing uterine tumor, which, from its rapid growth, intense pain, and the constitutional condition present, I diagnosed as probably malignant. The woman was extremely emaciated and worn out by incessant pain and loss of rest, the bulk of the tumor being such that she could not lie down in bed. At her earnest solicitation it was decided, as a forlorn hope, to afford her whatever chance the removal of the uterine tumor might give. The operation was similar to that in the last case described, though more prolonged, from the extent of pelvic adhesions present. She recovered from the immediate shock, but was subsequently attacked by peritonitis, under which she rapidly sank and died.

The mortality of Porro's operation, even under the most favorable circumstances,—that is, in obstetric practice where the condition of the uterus has presumably been normal,—has been fifty-six per cent. Therefore, my own experience of two deaths and one recovery, in operations thus performed in cases and under circumstances so much more serious, as were those here referred to, cannot be regarded as exceptionally unfavorable. But whilst I might possibly be again reluctantly induced, at the entreaty of a patient aware of the risk, to perform that operation as a *dernier ressort* in a case otherwise beyond hope, and where the disease was apparently entirely confined to the uterus and in which the symptoms were very urgent, at the same time I certainly would never myself recommend, even under those circumstances, an operation so terribly fatal as the removal of the gravid uterus has hitherto been and must always remain.

I may here, however, though on the principle that "the exception proves the rule," quote a case in which Sir Spencer Wells performed a hysterectomy operation with a more fortunate result, in a case of uterine cancer during pregnancy, and which may be best described in the words of that distinguished sur-

geon. He says, "The patient was secured as for ovariectomy, but, as it was necessary to keep a catheter in the bladder, an opening was made expressly for it in the waterproof covering. The vagina was plugged with thymol cotton wetted with warm water containing about one per cent. of phenol. I divided the abdominal wall in the middle line to an extent of about eight inches, from two inches above to six inches below the umbilicus. The uterus thus exposed was about the size of a large

FIG. 125.



Epithelioma of cervix of gravid uterus removed by Wells.

adult head. After turning it out I inserted four sutures in the upper part of the wound over a large flat sponge, so as to keep back the intestines and protect the abdomen from needless cooling by the spray. I found the ovaries at a higher level and nearer to the fundus than was expected, and it was quite easy to secure the spermatic artery, first on the left and then on the right side,

by transfixing the broad ligament below each ovary and tying with strong silk. I took the catheter as my guide in dissecting the bladder from the anterior surface of the uterus. The expanded uterine coats were very thin, like a tense cyst, and they were soon accidentally ruptured. I punctured the protruding membranes and a quantity of liquor amnii escaped. The next thing was to draw out the fœtus, and tie and cut the cord; but I did not interfere with the placenta. I then separated the attachments between the uterus and vagina, completely circumcising the neck, and securing by pressure-forceps all bleeding vessels as they were divided. The entire uterus, with all the diseased parts about the os and cervix, was thus removed. The forceps were then taken off successively, and every bleeding vessel tied with carbolized silk. Then, taking out the vaginal plugs, I brought together the opening into the vagina, and the edges of the divided broad ligaments, with silk sutures. The pelvis was carefully cleansed, the wound closed as usual with silk sutures, and the ordinary dressing applied as after ovariectomy."

Cameron's Operation.—Although in the present lecture we have to deal with the gynæcological employment of Porro's operation, which, as you are aware, was originally suggested as a substitute for Cæsarean section in obstetric practice, nevertheless, as all surgical operations on the uterus come within the scope of this course, and as I may have no other opportunity of alluding to the subject, I shall here refer briefly to the recent modifications by which the Cæsarean section has now come to yield results of which, as has been well said, "modern abdominal surgery may be justly proud." On the other hand, it must be admitted that Porro's and other operations for the removal of the gravid uterus have up to the present time by no means fulfilled the expectations of their earlier advocates. Thus, whilst the mortality in one hundred and fifty-two cases of Porro's operation has been, as stated by Sir Spencer Wells, no less than fifty-six per cent., on the other hand, by the recent improvements which have been effected in the technique of the Cæsarean section by Sanger, of Leipsic, and, above all others, by Murdoch Cameron, of Glasgow, the mortality of the latter operation has been reduced to only five per cent. The relative merits of the two procedures may therefore be regarded as being now finally settled by the brilliant

results obtained from Cæsarean section by Professor Cameron, who by his method, of which a brief abstract may be here cited, has performed no less than twenty Cæsarean sections, with only two deaths and eighteen complete recoveries.

Cameron's method of procedure is as follows: "If labor has not commenced, it is induced, and the abdomen opened to the extent of five or six inches, any rotation of the uterus is corrected, and a small incision made in the middle line till the membranes, which must not be ruptured, are reached. The incision is next enlarged upward and downward with a bistoury, the hand introduced, and the child extracted. The uterus is then brought out and thoroughly emptied of placenta and membranes. The edges of the uterine incision are everted by an assistant and deep carbolized sutures inserted. Any interference with the uterus after the operation by intra-uterine douches or by the introduction of a drainage-tube is strongly deprecated."

LECTURE XXI.

TREATMENT OF MALIGNANT DISEASE OF THE UTERUS (CONTINUED): ELECTROLYSIS; CAUSTICS; PALLIATIVE MEASURES.

GENTLEMEN,—Having now sufficiently discussed the surgical procedures available in the treatment of malignant disease of the uterus, we have in the next place to consider the alternative measures that may be adopted in such cases.

Treatment by Galvano-Cautery.—Of those measures one of the most important is treatment by galvano-cautery, or by the application of a powerful voltaic current, which, acting as a thermo-cautery or escharotic on the specific malignant elements, whether germ-cells or microbes, in the cancer-infiltrated cells, may therefore be regarded as a much-improved modification of the older escharotic treatment. The chloride-of-zinc arrows and other caustics formerly advocated are now replaced by the more potent electro-voltaic cautery directly applied to the diseased part either in the manner recommended by Dr. John Byrne, of Brooklyn,

or in that suggested by Dr. Parsons, of the Chelsea Hospital for Women. The former, as we learn from Mundé and Wells's abstract, from favorable personal experience strongly advocates the use of the galvano-cautery. He has operated on three hundred and sixty-seven cases of uterine cancer, and the average period of exemption in cases which could be kept under observation was eight years and seven months. His usual method is to remove the cervix as completely as possible by the galvano-caustic loop, then to thoroughly cauterize the mucous membrane of the uterus by an instrument passed into the uterine cavity, and the final thorough recauterization of the cervical stump. The parts must be quite dry before the cautery is used. Moisture must be repeatedly wiped away, and the cautery reapplied until all the tissues within reach are thoroughly seared. The deeper-lying cancer-cells are destroyed by less heat than will injure normal tissue. No medication is usually needed, except, after a few days, cleansing douches. The effects produced by the action of the strong electric current—as judged from Dr. Parsons's experience of its use in several cases of cancer, in which the disease was uterine, and the cervix almost completely destroyed—"consist," he says, "of a cessation of growth, gradual disappearance of pain, some shrinking and hardening of the tumor and enlarged glands, followed by improved nutrition and better state of the general health. The growth, as a whole, does not disappear, but remains as an inert mass, composed in all probability of a fibrous tissue alone. Before treating these cases, I felt almost sure that this would be the case, because I had found by a number of experiments, and also from treating a large pelvic fibroma by galvano-puncture, that neither could electricity decompose the fibrous tissue of new growths (whatever it might do with cicatricial tissue), nor could the system cause its absorption after it had been rendered inert. However, it will always be open to patients to have the remains of the growth removed subsequently by the knife."

The advantages claimed for Parsons's method of treatment are as follows: (1) There is no destruction of the normal tissues of the body; and if recurrence should at any time occur, its progress can be immediately stopped, and the treatment repeated as many times as necessary. Life would by this means be prolonged indefinitely, provided that metastatic deposits had not occurred

before the commencement of the treatment. So far, cases able to bear the full strength required have shown no signs of recurrence. (2) Patients are not obliged to lie up, but are able to get about on the day following the application. (3) The current can be passed through almost any part of the body, and thus arrest growths which could not by any possibility be otherwise treated. Up to the present, however, this method—although, as I believe, probably likely to prove useful in many cases—rests on too limited clinical experience to allow any final conclusions being arrived at as to its absolute value.

Caustics.—In this connection a few words must be said with regard to the employment of escharotics for the removal of uterine cancer. As a general rule, I believe that no caustic (with the exception, perhaps, of chloride of zinc) should ever be resorted to in any case in which the complete excision of the disease is possible and safe. Under any circumstances, as Erichsen remarks, escharotics are very apt to irritate and produce extension of the disease, by exciting inflammatory action around it; occasionally, though very rarely, some small tumors or tuberiform masses may be enucleated, as it were, by forming a sulcus around them with the caustic. Caustics are the agents that are usually employed by empirics, who profess to cure cancer by secret means and without having recourse to operative procedures, and it may doubtless be the case that such individuals occasionally, though very rarely, effect an accidental cure, by exciting so much inflammation in and around a tumor as to lead to its sloughing and consequent elimination.

Formerly chloride of zinc and chloride of gold were extensively employed in cases of uterine cancer. The latter was originally suggested by M. Récamier in an instance of cancer of the cervix uteri which had already destroyed almost the whole of that portion of the organ; seven or eight applications of this caustic were made; the local and general symptoms yielded completely; the ulceration ceased; the body of the organ, which had been engorged, lost its unnatural size; the lancinating pain and hemorrhages were no longer complained of. This caustic is prepared by mixing nitro-hydrochloric acid (aqua regia) with pure chloride of gold, in the proportion of one ounce of the acid to six grains of the salt. Notwithstanding the at least temporary

benefit thus obtained, M. Récamier, as it would seem, subsequently gave up this chloride for that of platina.

Among the many escharotics, such as bromine, acid nitrate of mercury, potassa fusa, and other caustics that have been thus used, probably the safest and most efficient are, first, chloride of zinc, and, secondly, chromic acid. The former has been again more recently recommended by Dr. Braithwaite, of Leeds, who uses a saturated solution, applied by means of a thin layer of cotton-wool wetted with the zinc solution, and lightly pressed between two pieces of blotting-paper. It should be left in contact with the parts for twenty-four hours or longer, healthy tissue being protected by cotton impregnated with soda. Its use is followed by great contraction of the parts, which, however, is usually not disadvantageous. Dr. A. Reeves Jackson prefers, in place of a more serious operation, the vigorous use of the sharp curette, followed by the use of a fifty-per-cent. solution of the zinc chloride. Dr. Mundé, of New York, has also for many years preached and taught this method; in his opinion, it removes a deeper and more satisfactory eschar than does the actual cautery, and enables us to go beyond the safe reach of the knife, scissors, or curette.

With regard to the employment of these caustics it may be well here to remind you that, as a general principle, these agents should be applied in such manner as to produce the requisite effect, if possible, by a single application, otherwise the irritation produced gives new activity to the disease. In superficial epithelial ulcerations, in cases where ablation is not feasible, or in those instances where carcinomatous matter appears in the cicatrix after operation, or where some suspicious tissue has been accidentally left behind, and the patient refuses to submit to further use of the knife, the chloride of zinc may sometimes be safely and advantageously employed. But the more potent caustics, such as potassa fusa and arsenical preparations, are wholly inapplicable in any such cases, occasioning, as they do, most intense pain, whilst there can be no certainty that every particle of the diseased formation is removed. Fatal results have occurred from the absorption of arsenic. These objections do not apply to the chloride of zinc caustic as now applied by Mundé and others.

Palliative Treatment.—In the unfortunately large number of instances in which the disease has already progressed beyond the

cervix before we are consulted, and in which from the intensity of the constitutional cachexia or the evident malignant contamination of other structures we have reason for a well-grounded disbelief in the possibility of safely and successfully effecting the complete removal of the cancerous uterus and its appendages, or in which the patient herself refuses to submit to so formidable an operation, we may still at least be enabled to assuage suffering, control hemorrhage, prolong life, and render its termination easier by well-directed medical care. For, although it still remains but too true that "all constitutional treatment is useless for the cure of cancer," not one of the many remedies, such as Chian turpentine, conium, iodine, animal charcoal, creasote, iodide of arsenic and iron, and the countless other drugs that have been vaunted from time to time as specifics for this disease, having on trial fulfilled the expectations of those by whom they were introduced, nevertheless there yet remains ample scope for the exercise of one of the chief objects of our beneficent calling, in the palliation of the incurable symptoms and miseries of the cancer-stricken patient. With this view, every effort should be made to turn the patient's thoughts from her disease by such occupation as may be possible, and to cheer and encourage her hope by holding out, as in many cases we should be enabled to do, a reasonable expectation of life that may be prolonged and for a time at least be rendered comparatively free from much actual suffering by judicious treatment. In these cases the diet should be light, nutritious, unstimulating, and sufficient to support the strength under the wearing influence of mental depression, no less than of physical pain, hemorrhage, and discharge.

Relief of Pain.—In some instances the greater part of the uterus may be extensively implicated and disintegrated by malignant disease unaccompanied by much, if any, acute pain. But, as a rule, this symptom is present from a comparatively early stage of carcinomatous disease, by the later or ulcerative course of which the most pitiable suffering is generally occasioned. To relieve this, opium still holds its place as the most reliable of sedatives, and is, I think, best employed in the form of the old-fashioned "black drop" or in that of the now generally disused acetum opii, both of which are free from many of the unpleasant effects of other more modern preparations. The hypodermic use

of morphia, though commonly resorted to for this purpose, is by no means so advisable as is generally supposed. I have myself so frequently found a special intolerance of or an undue susceptibility to the ordinary hypodermic doses of morphia, especially marked in the later stages of uterine cancer, that I have myself been driven to abandon this otherwise most ready method of relieving pain in such cases. When opiates, however, lose their effect in this way or are otherwise contra-indicated, we may fall back with advantage on the preparations of conium, the bromides of sodium and potassium, chloral hydrate, urethane, sulphonal, chloralamide, or some other of the newer hypnotics and analgesics which, as well as antipyrin, are now employed for this purpose. As local applications for the relief of uterine cancer pain, suppositories of belladonna, or of iodoform, ichthyol, and cocaine, are frequently serviceable, whilst the burning sacral pain so constantly complained of in these instances is often most effectually assuaged by the application of a large belladonna or opiat plaster across the loins.

Arrest of Hemorrhage.—The hemorrhagic discharge in these cases, however excessive, may, for the time at least, be generally controlled by syringing with a large quantity of water as hot as can comfortably be tolerated (110° to 120° F.) containing some astringents, of which the best are common alum, one ounce to the quart, or turpentine in the proportion of two drachms to the quart of water. To diminish the discharge more permanently, if possible, the patient should also be put on a mixture containing from half-a-drachm to one-drachm doses of liquid ergot in combination with muriated tincture of iron and quinine, which I have found generally successful for this purpose.

Diminution of Fetid Discharge.—To lessen the misery generally inflicted on the patient and those about her by the horribly offensive profuse discharge frequently occasioned by uterine carcinoma, attention to cleanliness and washing away of the cancerous detritus and secretions by frequently-repeated warm-water irrigations is always essential, and this may be rendered most effectual by the addition of a little creasote, liquor picis, or terebene to the injection, or else by the use of any of the ordinary disinfectant fluids, such as peroxide of hydrogen or solution of chloride of lime or permanganate of potash. Many years ago I called attention to

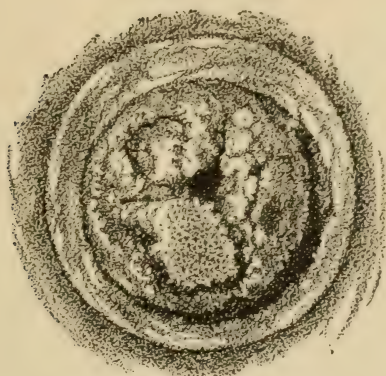
the deodorizing and antiseptic effects of intra-uterine terebinthinate injections or irrigations in the treatment of puerperal septicæmia, and this practice, which I advantageously employed in such cases when connected with the Rotunda Hospital and subsequently in the National Lying-in Hospital, I have continued to use down to the present time. I am therefore much pleased to find that the aseptic properties of turpentine in this way have more recently been elsewhere recognized and applied to the relief of the discomfort occasioned by the fetid discharges so generally characteristic of uterine cancer. Thus, Dr. I. E. Burton has strongly advocated the topical use of this remedy in such cases, in the proportion of a teaspoonful of the turpentine to a pint of water. This is thoroughly mixed by pumping up, with a Davidson syringe, three or four syringefuls of the water and working it back into the containing vessel. By this means the particles of turpentine are minutely divided and dispersed through the whole of the water, so that there will be time to inject the liquid before separation again takes place. Used in this way, turpentine is painless, economical, and easily applied, and by its employment two or three times a day offensive odors may be effectually prevented. Burton also recommends Chian turpentine, which, according to Drs. Mundé and Wells, also proves an excellent palliative, diminishing pain and hemorrhages and partly inhibiting the growth of cancer.

Nitrate of silver injections (ten grains to the ounce of water twice a day) were suggested and successfully employed for this purpose by the late Dr. Churchill, of Dublin, who found that this application not only allayed the excessive irritability of cancerous ulceration and so relieved pain, but also entirely took away the fetid smell of the discharge.

CORRODING ULCER OF THE UTERUS.

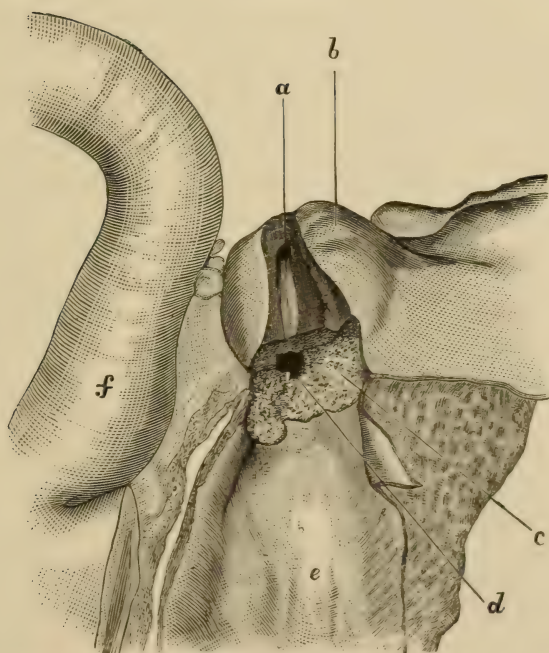
Lastly, before leaving the subject of malignant disease of the womb, I must refer to Clarke's so-called "corroding ulcer of the uterus," of which the best description is that given by Bailey, who says, "It is not unusual for an ulcer to be formed in the uterus, of a very malignant nature. This is most apt to happen to women at the middle period of life, or at a more advanced age; but it sometimes happens in women who may still be said to be

FIG. 126.



Corroding ulcer of the os uteri.

FIG. 127.



CORRODING ULCERATION OF UTERUS (after Williams).—*a*, cavity of uterus; *b*, remains of body of uterus; *c*, ulcer; *d*, place where ulceration has opened bladder; *e*, vagina; *f*, rectum.

young. The ulcer generally begins in the cervix uteri ; and the uterus is at the same time somewhat harder and larger than in the natural state. It does not, however, grow to any considerable size. The ulcer spreads from the cervix into the fundus uteri, and it is not unusual to see the greater part of the fundus destroyed with it and the rest changed into a tattered ulcerated mass. The ulceration is not always confined in its boundaries to the uterus, but sometimes spreads into the neighboring parts, as the vagina, the bladder, and the rectum ; making communication between them, and producing dreadful havoc." This disease attacks females of the lymphatic temperament especially, and generally about the period of the cessation of the menses, or soon after.

Corroding ulcer is by most authorities distinguished from cancer chiefly on the ground of the absence of any of the microscopic evidences of carcinoma in these cases, and by Dr. John Williams, of London, it is regarded as a senile gangrene arising from a degree of calcification of the internal iliac and uterine arteries. Nevertheless, the usual period of invasion, the general symptoms, the successive stages, and the intractability to treatment being so nearly identical in cases of womb cancer and in those of corroding ulcer, the latter for all practical purposes must be considered and should be treated as one of the forms of malignant disease of the uterus.

PART III.

DISPLACEMENTS AND FLEXIONS OF THE UTERUS.

LECTURE XXII.

ANTEFLEXION AND ANTEVERSION OF THE UTERUS.

GENTLEMEN,—From the diseases of the uterus described in the preceding lectures we now pass to the consideration of the various deviations of the womb from its normal position, the pathological importance of the more marked forms of which is daily illustrated by clinical experience. At the same time, however, I may observe that exaggerated prominence is given to this subject in some text-books by writers who still apparently regard flexions and displacements as the alpha and omega of uterine pathology, and who ascribe symptoms and results to various deviations of this kind of the existence of which I have myself, so far at least, met with no evidence in the course of practice extending over a quarter of a century. Relying, therefore, on that experience, I shall now endeavor to put before you what I believe will be found a generally accurate account of this important subject.

In a total of nine thousand gynecological cases, of which eight thousand came under observation in the extern department of this hospital, the respective frequency of the various displacements of the uterus was, some little time ago, thus noted :

FORMS OF DISPLACEMENT.	NUMBER OF CASES.
Anteflexion	150
Anteversion	76
Retroflexion	216
Retroversion	140
Prolapse	245
Procidencia	57
Inversion	2
	<hr/> 886

According to this table these uterine displacements were brought under notice in our clinique in a fraction under ten per cent. of the total number of gynæcological cases. This result is somewhat different from what is recorded elsewhere on this matter. But, without myself attaching undue importance to any statistics on such subjects, being aware how largely they may be unconsciously affected by the observer's own preconceived opinions; and, moreover, bearing in mind the difficulty of dealing with figures which, in the extern department of a great hospital such as this, are sometimes perhaps hurriedly noted by the clinical clerk on duty, who may not always be infallible in the nomenclature of the cases he has to record, nevertheless, as much pains as possible being taken to secure the correctness of our records, I believe that the foregoing figures afford a fair approximation to the actual frequency of the displacements in question.

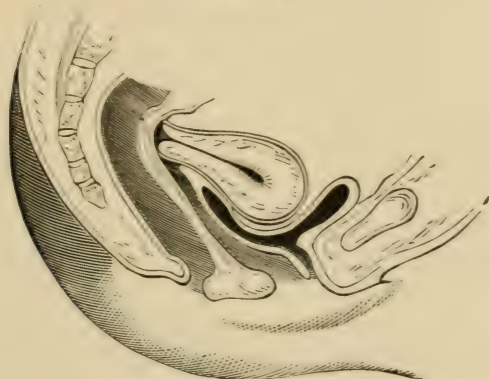
Under the term displacements of the uterus we may include not only dislocations of the womb in its entirety from its normal position and relations, such as prolapse, ascent, retroversion, and anteversion, but also those various flexions or bends in that organ by which the direction of the uterine cavity, instead of forming a slightly curved line with that of the cervical canal, is deviated at a more acute angle at or above their point of junction. Thus, without referring to lateral flexions (in which I do not believe), the fundus may be deviated either backward, constituting retroflexion, or forward, *i.e.*, antelexion.

In many instances, however, versions and flexions must be regarded as but different degrees of the same displacement, the former very frequently leading to the latter, as here shown in a case of anteversion, and, on the other hand, a persistent and marked flexion may eventually topple over (by the weight of the displaced fundus) the entire uterus, as shown often in the conversion of an exaggerated antelexion into an anteversion.

Before speaking of these displacements in detail, it may be well to remind you that the ordinary position of the uterus under normal circumstances and prior to pregnancy is that of slight antelexion. After puberty and prior to pregnancy antelexion and ante-curvature exist in rather more than one-half; whilst after pregnancy the axis of the uterus corresponds with that of the brim of the pelvis, and the womb is then much more sub-

ject to retroversion and displacement downward, and even when fairly "normal" occupies a lower position in the pelvis than

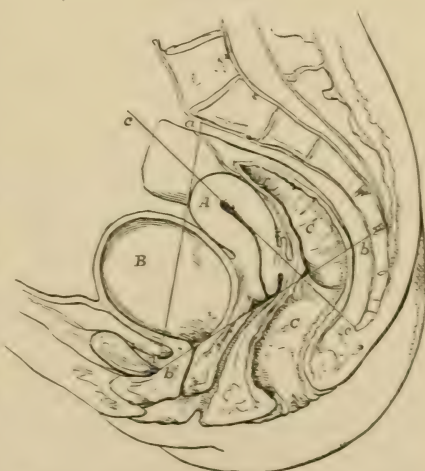
FIG. 128.



Anteversion with flexion of the uterus (after Hewitt).

before. According to the late Dr. J. Marion Sims, whose opinions on every subject connected with clinical gynaecology are still entitled to our highest consideration (as well as to other writers, who more recently have borrowed his views without referring to his name), the uterus normally occupies very nearly a central position in the pelvis, being, as he says, and as is delineated in the accompanying sketch, perhaps a little nearer to the sacrum than to the pubes. Its long axis should stand at about right angles to that of the vagina, the fundus pointing in the direction of the vagina and the os towards the end of the coccyx. The fundus may be tilted a little one way or the other without the position being neces-

FIG. 129.



Diagram, showing relative normal position of pelvic viscera (A. Farre).

sarily abnormal, as the condition and contents of the bladder and rectum temporarily influence it to some extent in this way.

I would ask you to bear in mind, however, as a starting-point in the study of the pathological displacements and flexions of the uterus with which we have here to deal, that there is no hard-and-fast rule to be laid down with reference to what may be regarded as the normal position of the uterus in all cases, or what amount of deviation may or may not constitute an abnormality under different circumstances. That position is one which necessarily must vary widely in individual instances, in accordance with the posture of the patient and the condition of the uterus or of the adjoining organs at the moment of our examination. Moreover, in some instances and under some circumstances even the smallest of these deviations from the so-called normal position of the uterus become pathological, whilst in other cases the most marked displacements or flexions may be unattended by any serious symptoms or appreciable subjective evidence of their existence.

Although, as just stated, a slight degree of ante flexion is a very usual condition of the uterus prior to pregnancy, nevertheless, in a graver or pathological form neither this nor anteversion comes so frequently, in this hospital at least, under clinical observation as do posterior displacements,—viz., retroflexion and retroversion.

As my experience on this point is at variance with that of Dr. Graily Hewitt and others, I can only say that the data on which my views have been formed include *inter alia* the notes of gynæcological cases in two other hospitals, as well as those of my present hospital practice, intern or extern; where, as I have said, in those instances in which uterine examination was found necessary the position of the womb was noted, with the result that in under ten per cent. of such cases we met with any displacements of sufficient pathological importance to demand special treatment, and in only two hundred and twenty-six of these cases was the displacement or flexion forward, whilst in three hundred and fifty-six instances it was in the opposite direction. Moreover, as was long ago observed by M. Dubois, if such flexions ordinarily led to the serious consequences they are said to do, and the means usually recommended for the prevention of these were demanded

in every case, nearly a third part of the females resident in cities would have to be subjected to those means or resign themselves to hopeless sterility and suffering.

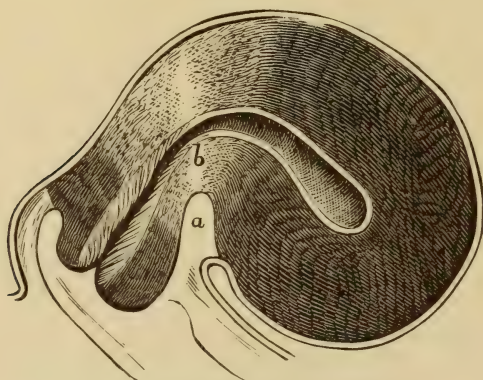
We may for clinical purposes divide antero-deviations of the uterus into two classes,—viz., first, those minor cases in which the displacement is congenital and in which, if the case be one of anteflexion, the angle of its curvature is obtuse; and, secondly, those generally graver cases in which the dislocation is acquired as the result of disease or accident in after-life, and in which, if acute anteflexion be evinced, it will in the majority of cases be found associated with anteversion either as cause or effect. To the cases which are included in the second of these categories, and which alone demand your serious attention, the following observations will be restricted.

General Causes of Anteflexion and Anteversion.—Among the predisposing causes of both these deviations from the proper position of the uterus, probably the most important are, first, preternatural elongation, congenital or acquired, and undue mobility of this organ; secondly, an abnormal shortening of the uterosacral ligaments, by which the cervix is directed backward, the fundus becoming anteflexed or anteverted; thirdly, and above all, impairment of the normal tonicity of the anterior abdominal walls consequent on parturition. The more common immediate causes of both displacements are tumors in or attached to the anterior wall, or the existence of chronic corporeal or fundal endometritis or congestive hypertrophy, by which this part of the uterus, becoming overweighted, is gradually directed downward and forward. This result is also not unfrequently produced by the pressure in the same direction of intra-peritoneal or pelvic tumors or other local enlargements, or by the *vis a tergo* of rectal accumulations, as well as by direct violence, such as a fall or other injury.

Symptoms.—These are generally merely sufficient to indicate the necessity for local examination, by which alone the exact position of the uterus may be ascertained, and include irritability of bladder, dragging pain in the inguinal regions and loins, intra-pelvic sense of weight and discomfort, with bearing-down sensation and dull aching extending down the thighs, increased by motion and leading to uterine lameness. Above all, the catamenia

soon become disordered, scanty and painful menstruation being the most constant of all these symptoms.

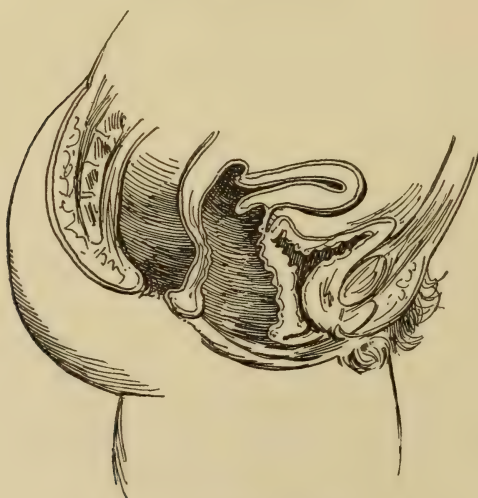
FIG. 130.



Anteflexion of the uterus (after Hewitt).

Diagnosis.—The differential diagnosis between anteversion and anteversion can be arrived at only by a properly-conducted bi-

FIG. 131.



Anteversion (J. McGee, del.).

manual examination, on which if the case be one of anteversion the fundus will be found low down and pressing on the neck of

the bladder, whilst at the same time, unless it be complicated with anteversion, the os will be found in its normal position, thus contrasting with the state of the parts in anteversion, in which, whilst the fundus is displaced forward and downward, the os and cervix are thrown back into the sacral concavity, or, in extreme cases, even backward and upward into the posterior vaginal cul-de-sac. Under these circumstances, by the use of the sound or uterine probe we may readily determine whether we have to deal with an anteversion or anteflexion or with both, as well as the extent and direction of any existing flexion. Of those instruments it matters little which we select, provided only that it be used with that gentleness and caution which in the first of my lectures I told you can alone render the employment of such appliances either effectual or safe. For this purpose the patient should be placed in the left lateral semi-prone position, the cervix then brought into view by the duck-bill speculum, and drawn well down by a tenaculum, so as to straighten as far as possible the flexed canal, through which the sound, previously curved to whatever extent has been previously decided by digital examination, should gently and slowly, without any force, be passed into the uterine cavity, bearing in mind the futility and danger of any violence in the introduction of this often-abused instrument.

Treatment of Anteflexion and Anteversion.—Under this heading may be included the treatment of both anteflexion and anteversion, which, as already mentioned, I regard as merely different degrees or stages of the same abnormality, although largely modified in their symptoms, results, and required treatment in accordance with the special prominence of the amount of flexion or version that may be present in each instance. With regard to the first-named deviation it must be admitted that few of all the complaints encountered in gynecological practice are more difficult to deal with satisfactorily than those aggravated pathological anteflexions that occasionally come before us: as exemplified in two cases now in the hospital, in each of which a marked anterior deviation has so long existed as to lead to structural changes not only in the uterus but also in the contiguous parts, and in one of which the fundus is bound down in its abnormal position by adhesions, whilst in the other a similar effect has resulted from shortening of the utero-sacral ligaments, by which, the cervix

being drawn backward, anteversion has become superadded to the primary anteflexion.

Under such circumstances our treatment must be based, first, on the recognition and removal of the cause of the condition we seek to relieve, and which, as I have before told you, may be traceable to some one or other of the various forms of intra- or extra-uterine tumors or other intra-peritoneal or pelvic disease, with the symptoms and management of some of which you have already been made conversant. We may in the next place proceed to consider the various methods employed for the reposition of the displaced uterus. For this purpose, in those cases of anterior displacement (which are less frequent than some think) in which any active treatment is really called for, the first essential is that the patient be rigidly kept in the dorsal position for whatever length of time may be required until the uterus is replaced. The next point in importance to this absolute general and uterine rest is the maintenance of an empty rectum by suitable purgatives or enemata. We may then with a more reasonable expectation of success set about an attempt to effect the reposition of the uterus by well-directed conjoint manipulation with both hands, the left being externally pressed down from above the pubes into the anterior cul-de-sac so as to grasp and lift the depressed fundus out of its abnormal bed, whilst with the right index and middle fingers in the vagina the cervix is firmly pressed forward and if possible upward so as to occupy the place from which the fundus is at the same moment being lifted. Should this plan fail, however, as it too often does, especially in the case of a very fat patient, in whom (despite all the confident assertions to the contrary that have been made) it may be found practically impossible to carry out the bimanual method suggested by Schultze, of reaching and raising the depressed fundus uteri, we then try what I have in some instances found an effective and simple method of raising the depressed fundus from its anterior deviations,—namely, distention of the bladder.

For this purpose it is only necessary to pass into the bladder a catheter connected by a bit of tubing with a small funnel from which a stream of tepid water is slowly and gently passed into the bladder until it may be sufficiently distended to press the anteflexed or anteverted fundus uteri upward and backward, this

being at the same time aided by raising the patient's pelvis well above the abdomen by cushions under the nates. It is hardly necessary to say that in this distention of the bladder great care

FIG. 132.



Funnel for distending the bladder (A. Duke).

should be taken to avoid carrying it so far as to cause much pain or any possible risk of rupturing of that viscus.

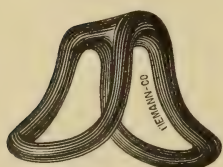
If this method be contra-indicated from any cause, or fails, as is sometimes the case, we then, I fear, have no escape from the necessity of employing the uterine sound as a repositor. I have

always held that this instrument should never be employed, if its use can by any possibility be avoided, as a means for reposition of any uterine displacement, in which cases its misdirected or injudicious use has too frequently been attended with the most untoward consequences, such as metro-peritonitis or cellulitis, from the forcing of the point of the instrument through the uterine walls. As just said, however, there are some exceptional instances of antelexion in which, other means having been first ineffectually tried, we are, however reluctantly, obliged to resort to the sound, or some other intra-uterine appliance, as the only available repositior.

In such cases of antelexion the sound, sufficiently curved to allow its easy passage through the flexure, may be introduced with the point directed forward, the handle being then very gently rotated and swept slowly round from the posterior to the anterior vaginal commissure so as to bring the fundus back into its normal position. In this procedure neither force nor haste is ever justifiable.

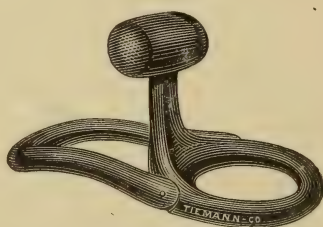
In the next place, and before the withdrawal of the sound, the return of the antelexion or anteversion must be obviated by the application of a suitable pessary,—namely, either a well-bent lever or Hodge or, what I think is still better, my roller pessary, the upper arm of which should be passed well up into the anterior

FIG. 133.



Hewitt's cradle pessary.

FIG. 134.



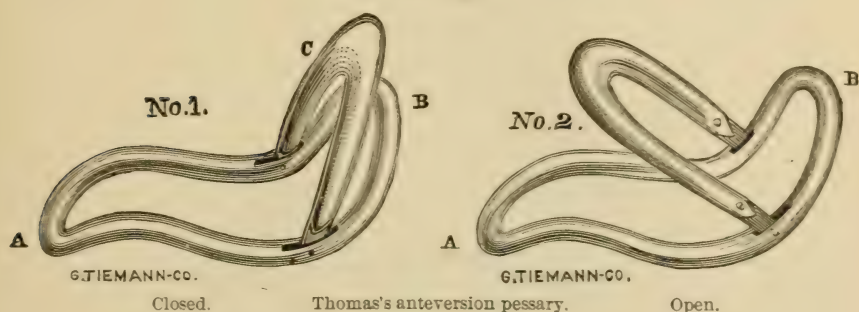
Thomas's antelexion pessary.

vaginal cul-de-sac, or else by the use of one of the instruments specially devised for this purpose by Graily Hewitt, Thomas, and others.

Stem Pessaries.—There is probably no question connected with the treatment of uterine flexions generally, and particularly with

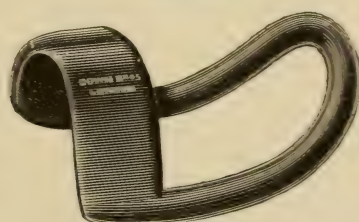
reference to antelexion, more disputed than that of the use of stem pessaries for the straightening of such deviations. On this subject, however, as in most other similar controversies, our con-

FIG. 135.



clusions should be influenced not by reference to authorities on either side, but by a careful consideration of the special circumstances of each case and a due regard to the methods of employ-

FIG. 136.



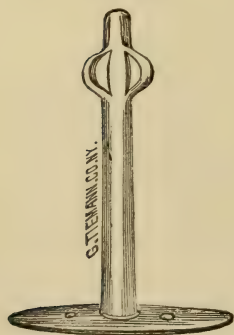
Galabin's anteversion pessary.

ment, as well as the character and form of the widely-different instruments which are included in the surgical-instrument catalogues under the common name of "stem pessaries." Thus, there can be no analogy between, or general rule applicable to the employment of, appliances so essentially dissimilar as, on the one hand, the soft or flexible, patulous, rubber or spiral wire tubes of Greenhalgh, Godson, and Duke, and, on the other hand, the modifications of Simpson's original stem pessary, of which by far the best are Graily Hewitt's and Thomas's, but in all of which, from Simpson's first model down to the latest spike

FIG. 137.

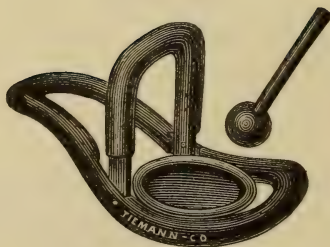
Cradle pessary *in situ* (Hewitt).

FIG. 138.



Greenhalgh's elastic intra-uterine stem.

FIG. 139.



Thomas's stem.

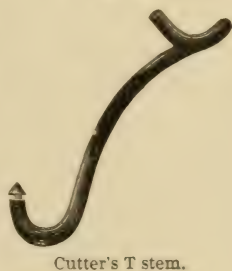
with an externally projecting adjustment, not unlike the handle of a German umbrella, which I saw exhibited at the Berlin meeting of the International Medical Congress, are in a greater or lesser degree perpetuated the cardinal faults of the original instrument, viz., rigidity and impatency.

Whilst regarding some forms of flexible stem pessaries as under certain circumstances of unquestionable utility in other abnormal conditions, to be subsequently referred to, my experience has made me extremely reluctant to introduce any intra-uterine support in cases of anteflexion; nor do I think that such instruments will often be found either necessary or serviceable in these cases. It should be borne in mind that this displacement is most commonly met with in early life and prior to pregnancy, and that under such circumstances the uterus must be very intolerant of a foreign body, such as a stem pessary, and very liable to resent its presence, as I have frequently seen proved by the setting up of active uterine or peri-uterine inflammation from this cause.

It sometimes happens, however, that, owing to the intensity of the obstructive dysmenorrhœal symptoms of an anteflexion, we are forced into the use of some mechanical means for maintaining the patency of the flexed cervical canal, and under those circumstances we may select a form of stem pessary, such as Greenhalgh's or a small and very flexible open-ended, wire spiral, of Duke's latest pattern, for this purpose.

Incision of the Cervix.—Moreover, in some of the cases last mentioned, which must be again referred to in a subsequent lecture on the causes and treatment of sterility in women, the free incision of the posterior wall of the cervix from within outward and backward, followed after a time by dilatation of the canal, frequently proves successful not only in curing sterility and dysmenorrhœa, but also in rectification of the flexion. In such cases the latter result is obviously due to cicatricial contraction following the incision, by which the elongated posterior cervical wall being shortened gradually pulls back the misplaced fundus uteri into a more normal position.

FIG. 140.



Cutter's T stem.

In extreme cases of anteversion, where the whole organ lies flat down on the anterior wall of the vagina, it has been proposed to denude a sufficient portion of both the anterior cervical and vaginal walls and to suture these together, as in the operation for vesico-uterine fistula, and thus exercise such permanent traction on the cervix as to prevent the possibility of any return of the anteversion. I have never found this operation necessary, nor can I recommend it theoretically, believing that the original causes of the fundal displacement must eventually assert their potency, and that the result would then be the substitution of an ante-flexion for any anteversion thus cured.

Finally, I may observe that, although, as a general rule, ante-flexion and anteversion give rise to less marked symptoms and call for less active treatment than appears to be now commonly supposed, in some exceptionally graver instances these displacements prove intractable to the best-devised remedial measures. Nevertheless, it does not follow that even such cases are necessarily incurable, inasmuch as, both anteversion and ante-flexion being most frequent in early life and prior to pregnancy, their cure is quite as likely to result from the physiological development in the uterus that may supervene should the patient become married and impregnation occur (which, notwithstanding the displacement, occasionally happens) as from any gynæcological treatment.

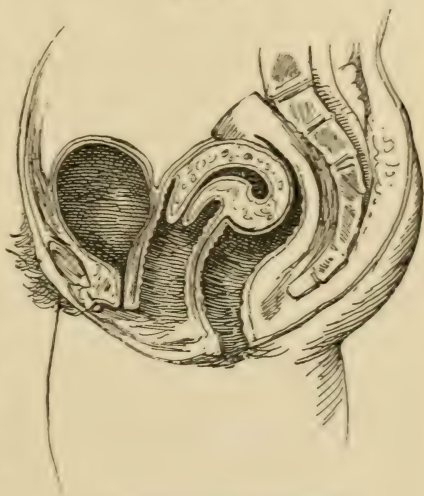
LECTURE XXIII.

RETROFLEXION AND RETROVERSION OF THE UTERUS.

GENTLEMEN,—Having grouped together in the preceding lecture ante-flexion and anteversion as practically but different stages or degrees of a common abnormality, I purpose to follow the same plan in bringing under your notice the posterior displacements of the uterus,—viz., retroflexion and retroversion. In the former of these, as is hardly necessary to remind you, the condition is one of a more or less acute inflection or curvature backward or downward of the fundus and body of the organ, the

cervix remaining in its normal position, while in retroversion, when uncomplicated by flexion, the entire uterus is thrown in the same direction transversely across the vaginal axis. Retroflexion, though less frequently observed as a congenital condition than antelexion, is here much more frequently brought under clinical notice, and that in conjunction generally with some degree of retroversion. These displacements backward of the uterus, moreover, contrast with those in the opposite direction in the fact that they commonly occur after pregnancy and at a more advanced period of life.

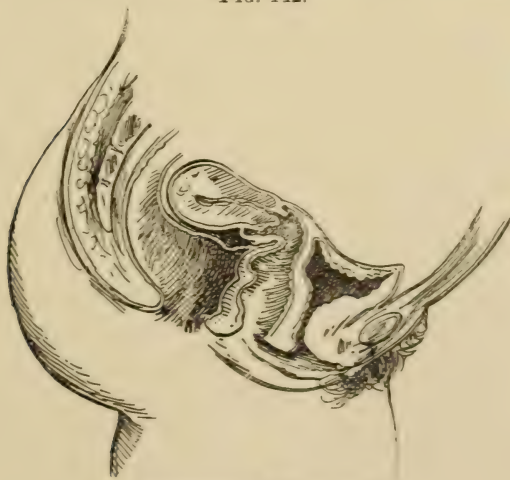
FIG. 141.



Retroflexion of uterus (A. Duke).

A single case studied at the bedside will, I think, help to im-

FIG. 142.



Retroversion (J. McGee, fecit).

press on your minds the points of practical importance with regard to the causes, symptoms, and treatment of these common

forms of uterine displacement far better than any amount of time devoted to the study of text-books, in some of which the descriptions and delineations of uterine displacements have apparently emanated from disciples of that German professor who, as we are told, "evolved his account of the camel from the depths of his own inner consciousness," rather than from actual observation. As I prefer the latter myself, I shall introduce this subject by giving the clinical notes of one of these very common cases of retro-uterine displacements which you have seen in this ward.

J. B., aged twenty-eight, a stout-looking countrywoman, was admitted September 10. Four years previously, shortly after the birth of her first child, she began to complain of severe dragging pains in the back, with intra-pelvic sense of weight and discomfort, difficulty in defecation, and irritability of bladder. These symptoms continued to increase, and for nearly a year before admission her menses had gradually become more profuse and were now painful as well as prolonged on each occasion. This, together with the fact of her not having again become pregnant, as she seemed very anxious to be, led to her seeking treatment in the hospital. On examination the uterus was found somewhat enlarged and congested from subinvolution, the os and cervix were normal in position, whilst the fundus was acutely retroflexed into the posterior vaginal cul-de-sac.

The uterine congestion having been relieved by scarification, hot douches, and the application of glycerin plugs, she was put in the genu-pectoral position and the fundus uteri was pushed into place by steady digital pressure from the rectum. The cervix, after being drawn down by the vulsellum, was expanded by my rapid dilator and a spiral wire stem introduced, which was removed in a month, when, the return of retro-displacement having been previously guarded against by the application of a large-sized roller pessary, she was discharged, apparently perfectly well.

Etiology.—The causes of posterior displacements of the uterus common to retroflexion and retroversion may be divided into predisposing and immediate. In the former are included any constitutional condition or disease by which either the structure of the uterus is hypertrophied or its normal supports from above or below are impaired, or they may be dependent on abnormal pelvic capacity. In the direct causation of these displacements the most

important factors are all conditions by which the weight of the uterus is increased beyond the resisting power of the ligamentous attachments, such as chronic corporeal or fundal endometritis, more especially when associated with subinvolution, the mechanical pressure or tractile force of uterine, intra-peritoneal, and vesical tumors, and over-distention, to which list under some circumstances pregnancy must be added. It should, however, be observed that even in early gestation, when this accident is most likely to occur, complete retroversion (in which the position of the whole uterus is completely altered, or topsy-turvy, the fundus pressing through the recto-vaginal wall on the promontory of the sacrum and the cervix and os uteri looking directly upward and forward) is very unfrequently noticed as a primary abnormality, being more generally consequent on a gradually-increasing degree of retroflexion. This generally commences at the point of junction between the cervix and the body of the uterus, a fact which has been explained by Virchow on the ground of the anterior wall being thinner here than elsewhere, and also from the reflection of the peritoneum forming a line at this part, allowing the upper part of the uterus, unsupported, to bend upon the lower, which is strengthened by its attachments. Be that as it may, under the circumstances just referred to, it requires only some force pressing the contents of the pelvis suddenly downward to complete the retroversion, and this is generally afforded by any violent efforts, such as lifting weights, vomiting, or straining at stool. A fall or a blow may also give rise to it.

Symptoms.—In considering the symptoms of posterior displacements of the uterus we must refer, in the first place, to those of retroflexion, a condition which until associated with some marked extent of retroversion generally gives rise to much less trouble than acute antelexion may occasion. The lesser intensity of the symptoms in the minor forms of retro-displacements is obviously due to the greater capacity of the pelvic cavity in this direction, so that comparatively slight pressure troubles are commonly produced by them until either the retro-curvature becomes exaggerated or acute or the retroversion being complete displaces the adjoining parts or presses directly on the sacral nerves or obstructs either the neck of the bladder or the rectum. Long before this point of displacement is reached, however, a retroflexion generally gives

some evidence of its existence, by the gradual development of a long train of symptoms, of which the most common are increasing pelvic discomfort or sensation of fulness, dragging weight, and dull, constant pain in the back, from pressure on the sacral plexus, and pain along the course of the nerves down the thighs, together with some degree of vesical irritability and tenesmus or difficulty in defecation.

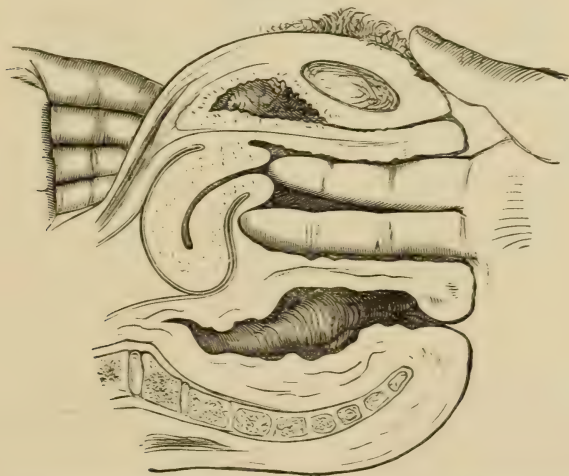
As to the menstrual function, in exceptional instances this appears to be diminished; more frequently, however, the flux is increased and the period protracted as well as painful, dysmenorrhœa being a most usual attendant on every marked flexion. If the patient be married and within the period of reproductive vitality, either persistent sterility or, on the other hand, a tendency to repeated early abortions, both otherwise unaccounted for, should lead the practitioner to suspect the existence of this abnormality.

In these cases, as in every form of acute uterine flexion, the general health soon sympathizes with the local disorder, and in the great majority of cases the nervous system is the first thus affected, such patients being the common subjects of all the various forms of nervous and hysterical complaints. The gastric functions participate in the general disturbances thus occasioned, and loss of appetite, nausea, or retching, similar to that of early pregnancy and occasionally confounded with it, is often thus produced. At the same time the patient, as the result probably of the diminished amount of food she can now take as well as of the impairment of her power of taking exercise, from pelvic lameness, gradually becomes weak, languid, and despondent.

Such are the ordinary general symptoms that point to acute retroflexion of the uterus. Those, on the other hand, attending retroversion, although still more marked, are only an exaggeration of the symptoms just mentioned,—viz., a greater intensity of the local results of the rectal obstruction, vesical irritation, and pelvic lameness occasioned by the direct pressure or dragging on the uterine attachments of the retroverted organ. In this way, in complete retroversion, the neck of the bladder may be jammed against the symphysis pubis by the displaced cervix or its fundus dragged down by the uterine attachments, producing every degree of dysmenorrhœa.

Diagnosis.—The following conditions may be enumerated with which retroflexion is occasionally confounded and from which it must be differentiated,—viz., first, retroversion, from which, however, it may be distinguished by the introduction of the sound, and by the fact that in this displacement the os and cervix uteri are directed forward and upward; whereas in uncomplicated retroflexion these parts maintain their natural position whilst the fundus is thrown downward, forming an angle at the point of deflection. Retroflexion has been mistaken for a tumor in the posterior uterine wall, a prolapsed ovary, ovarian and parovarian growths, pelvic abscess, and hæmatocele, from which it can be readily recognized by a careful retrovaginal exploration and the use of the sound.

FIG. 143.

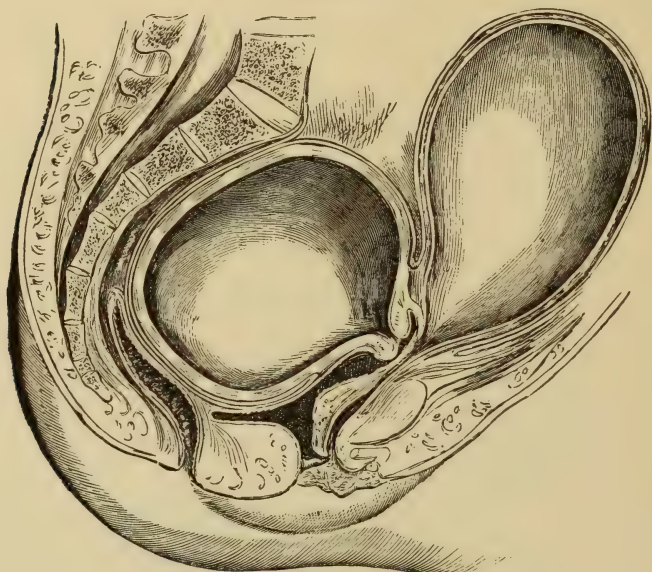


Diagnosis of retroflexion by bimanual examination (Hart and Barbour).

Retroflexion and retroversion of the gravid uterus must be here separately considered with regard to their differential diagnosis. In such cases, as Dr. Graily Hewitt pointed out, the tumor may be of considerable size, the os is high up and difficult to reach, the patient is generally known to be pregnant, and the swelling has a softer feel than is communicated by a fibroid in the same position. When the gravid uterus is retroflexed or retroverted, the symptoms usually show themselves quickly and with great intensity. The use of the sound would of course clear up

all doubts, but unless the case be clearly not one of pregnancy it is needless to say this instrument must not be had recourse to. An ovarian growth does not effect such an amount of dislocation upward of the os uteri as is witnessed in the other case. From

FIG. 144.



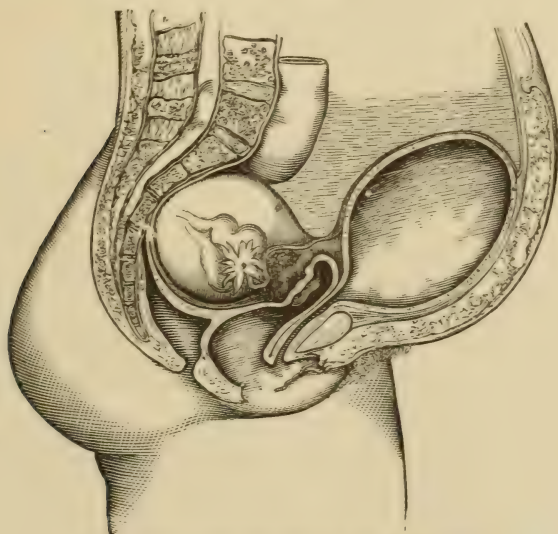
Retroflexion of the gravid uterus (Hewitt).

extra-uterine pregnancy, in which also a tumor may be present behind the upper part of the vagina, it is to be distinguished by the continuity of the tumefaction with the uterus, also by the non-symmetrical shape of the tumor in extra-uterine pregnancy. From fluid or bloody distention of the Fallopian tube the tumor due to retroflexion of the gravid uterus is also to be distinguished by its central position, its greater firmness, and its continuity with the cervix.

Symptoms and Consequences of Acute Retroversion of the Gravid Uterus.—The symptoms of this serious complication of gestation properly come within the scope of the obstetric rather than that of the gynæcological teacher. Nevertheless, as this accident, as well as the comparatively chronic and less grave form of retro-displacement or retroflexion of which Dr. Graily Hewitt's

account has been briefly recapitulated, is also and more frequently brought under notice in our branch of practice, I shall here avail myself of the observations of a distinguished obstetric authority, viz., my friend Professor Leishman, of Glasgow,

FIG. 145.



Retroversion about the twelfth week (Schultze).

on the subject. Acute retroversion of the uterus during pregnancy, he says, "occurs suddenly ; but it is most likely that there is a pre-existing minor degree of displacement, which gives rise to a further and sudden change in the position of the womb sufficient to cause complete retroversion. Immediately upon the occurrence of this dislocation, or within a very short period, the woman complains of severe dragging pain, which is accompanied by a new sensation, as of a foreign body in the pelvis. This gives rise to painful and fruitless expulsive efforts, with increase of the pain around the entire pelvis, and great difficulty in emptying the bladder and the rectum. In this case, the axis of the womb being straight, the os uteri is tilted up behind the symphysis, being often as high as its upper margin, so that it is a matter of difficulty to reach the os. These symptoms are usually attended with faintness, nausea, and vomiting, and other general symptoms of even

greater severity; and, unless the reposition of the organ be speedily effected, this state of matters gives rise to complete retention of urine and obstruction of the bowels, which may, in their progress, result in rupture of the bladder, stercoraceous vomiting, ileus, and such symptoms as precede a fatal result. In many cases—perhaps in most of those in which the incarceration of the organ is prolonged—there is congestion and thickening of the uterine walls, and this may sometimes amount to actual inflammation of the organ, which becomes exquisitely tender, and thus aggravates greatly the sufferings of the patient.

“The natural termination of a case such as this involves great risk to the mother and almost certain death to the child. For, although in its further development the womb may possibly take an upward direction and the symptoms be thus spontaneously relieved (and such cases are on record), the usual result unfortunately is, that the increase of the uterus gives rise to the more serious symptoms above detailed, which can only be relieved by arrest of development or by expulsion of the foetus. Nothing can, therefore, be more obvious than the necessity which exists for prompt action in the way of treatment. Should the congestion of the womb be marked, benefit will be derived in the first instance from the use of warm baths and injections, and local or even general bloodletting; and when these measures have had time to act, attempts are then to be made to effect the reposition of the organ, taking care, of course, in the first place, that the bladder and rectum have been thoroughly emptied.”¹

It must, however, be observed that the recognition and treatment of retroversion or retroflexion during pregnancy, and their differentiation from other conditions with which these displacements may possibly be confounded, is a matter on which mistakes are still liable to be made (as I have seen) even by experienced practitioners, whilst in former days these errors in diagnosis and treatment were not the exception but the rule. Thus the highest authority on such subjects of the last century, William Hunter, himself very candidly recorded cases in which pregnant women suffering from retroversion, which any tyro could now treat successfully, were allowed to die unrelieved in his hands. One of

¹ A System of Midwifery, by William Leishman, M.D., 4th ed., p. 282.

these cases, as related by Hunter,¹ may, I think, be usefully cited in this connection, not only as illustrating the vast progress of our art since the time it was written, but also as conveying a graphic clinical description of the displacement under consideration, and, lastly, as a model, which might be more frequently followed at the present day, of a candid statement of the failures which occasionally occur to all, however eminent, and without a reference to which the records of medical experience are worthless.

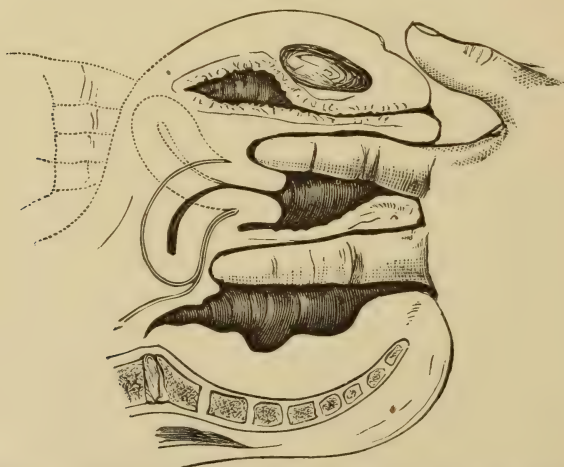
"A poor woman in London, about four months advanced in pregnancy, was suddenly seized with retention of urine. She sent for Mr. Walter Wall, a medical practitioner, who passed the catheter and relieved her; but the impediment continued, and, it being again necessary to employ the catheter, Mr. Wall on this occasion made an attentive examination with a view to discover the nature of the obstruction. He passed his finger up the vagina, the course of which, instead of being upward and backward towards the sacrum, was upward and forward against the pubes. He could not feel the cervix uteri, but he discovered a tumor at the posterior part of the vagina, which, on the introduction of the finger into the rectum, was found between the gut and the vagina. The lower portion of this tumor being projected towards the pubes, the impediment to the evacuation of the bladder was supposed to be occasioned by its pressure on the urethra. Mr. Wall, finding the case of his patient corresponded with the description of retroversion of the uterus as given by M. Gregori (whose lectures he had attended in Paris), endeavored to replace the uterus, but without success. He then sent for Dr. William Hunter, who upon examination found the relative state of the parts to be that which had been just described. On raising the tumor, the urine dribbled away. Dr. Hunter endeavored to restore the uterus to its natural situation, but failed; there was obstinate constipation, and in a few days the patient died. On examination after death, the bladder was found distended, the cervix uteri was turned upward and forward against the symphysis pubis, and the fundus had fallen downward and backward in the hollow of the sacrum, where it was so impacted as to be with difficulty dislodged."

¹ Medical Observations and Inquiries, vol. iv. p. 400.

Treatment of Retro-Displacements of the Uterus.—The treatment to be employed in retro-displacements of the uterus must be determined not only by the degree of dislocation but also by its cause, its duration, and the condition as to disease or pregnancy in each case. Thus, if the displacement be due to the pressure or traction backward of a fibro-myoma within the uterus or attached to its posterior wall, it is useless to attempt and vain to expect any permanent reposition until this has been dealt with. In like manner, in the retroversions or retroflexions so frequently connected with chronic hypertrophy and subinvolution of the uterus, attention must be given to the removal of these morbid conditions before we can hope to replace and retain the womb in its normal position.

Methods of Effecting Reposition.—In the great majority of cases this may be accomplished without recourse to any reposer save that best of all instruments, the skilled hand of the surgeon, aided

FIG. 146.



Reposition of retroflexion by the finger in the rectum (Hart and Barbour).

by the genu-pectoral position of the patient, which will subsequently be described. The patient having been so placed, and the bladder and rectum having been previously emptied, you introduce the first two fingers of the left hand into the rectum, and, by gentle, firm, and gradual pressure through the recto-vaginal septum, slowly push the retroflexed or retroverted fundus

uteri upward and forward, whilst at the same time, with the corresponding fingers of the right hand, the cervix is pressed downward and backward into the sacral concavity so that it will occupy the place from which the fundus is lifted up.

Genu-Pectoral Position in the Treatment of Retroversion and Retroflexion.—Probably no greater improvement in every-day gynæcological practice has been effected during the last half-century than that for which we are indebted to the late Dr. Marion Sims, by whom the value of the genu-pectoral position combined with pneumatic pressure was first demonstrated in the treatment of retroversion and subsequently extended to utero-vaginal examinations and operations. The rationale of this method, as well as its efficacy in such cases and the accident which led to its discovery, has been very graphically described by Sims. Having been called on to reduce a completely retroverted uterus in a case in which there was great difficulty in effecting reposition, and having placed the patient on her hands and knees, "one finger," he says, "was not long enough to throw the organs up, nor were the two; but when they were both introduced, in my varying manipulations and strenuous efforts, the hand was accidentally turned with the palm downward, which thus brought the broad dorsal surface of the two parallel fingers in contact with the vulvar commissure, thereby elevating the perineum and expanding the sphincter muscle, which allowed the air to rush into the vagina under the palmar surface of the fingers, where, by its mechanical pressure of fifteen pounds to the square inch, this canal was suddenly dilated like a balloon, and the uterus replaced by its pressure alone."¹ From that time Sims's description of the genu-pectoral position, in which the force of gravity materially aids the pneumatic pressure in the desired reposition, has been copied by all subsequent writers, and may be here briefly reiterated.

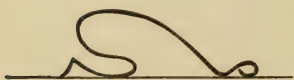
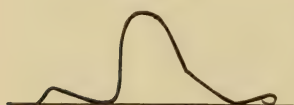
When employing this method the patient must first loosen all the strings and fastenings of her dress and corset and place herself on the couch or table on her knees, bending the body forward until the head is brought down to the same plane as that on which the knees are resting, viz., the surface of the couch. The

¹ Uterine Surgery, p. 15.

face may be turned to one side, and rest in the two hands, while the elbows are thrown out widely from the sides. The knees are to be separated from five to ten inches. The thighs must be perpendicular to the surface of the couch. She must not arch the spine upward, for this brings into forcible action the abdominal muscles, which should be perfectly relaxed, with the spine curved downward. With these precautions fully impressed upon her, she is to breathe easily and relax the muscles of the abdomen. In consequence of this position quietly retained for a few moments, the movable abdominal and pelvic viscera necessarily gravitate towards the epigastrium. Now, if the surgeon will get immediately behind his patient and lay his hands on the nates, and push them gently upward and backward, taking care that her position is not changed, he will see the mouth of the vagina open, and at the same moment hear the air rush into it with a blowing or hissing sound; and then if he will, with his finger, raise the perineum up towards the os coccygis, he will see the vagina distended.

The special importance of this position in the treatment of uterine displacements was also very clearly demonstrated many

FIG. 147.



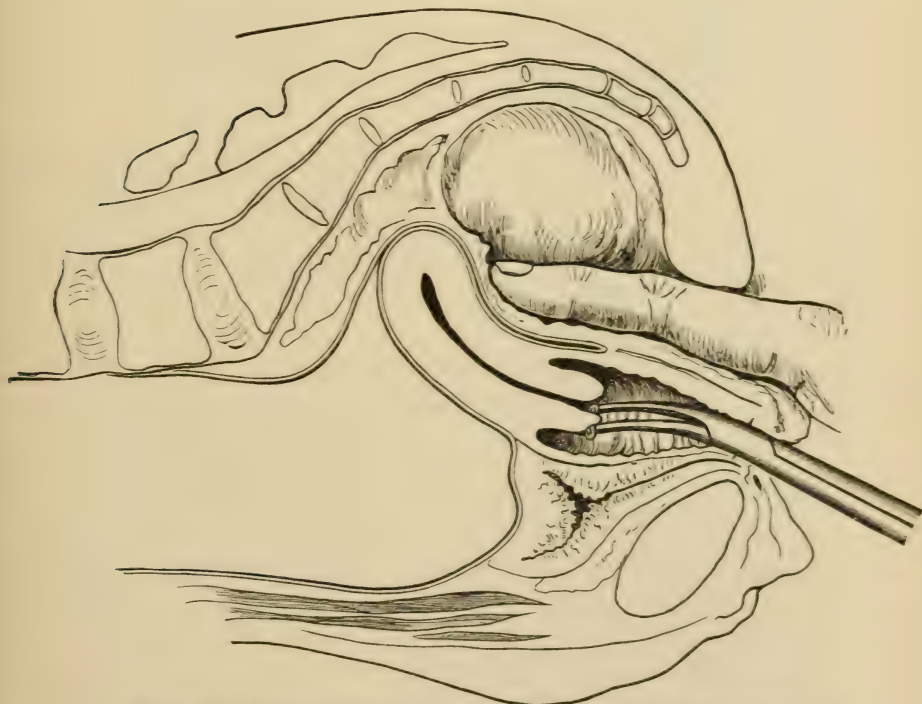
years ago in the *Atlanta Medical and Surgical Reporter* by another American surgeon, viz., Professor H. F. Campbell, of Georgia University, who in his report on this subject pointed out some of the errors which are liable to occur in carrying out Sims's directions. As that paper may probably not fall into your hands, and as the errors referred to are still often repeated by gynæcological practitioners, I shall here avail myself of Dr. Campbell's outline diagrams in illustration of this point.

The first represents the outline having all portions of the body in proper relation with the plane surface upon which the figure rests. The perpendicular line, representing the thigh, elevates the hips to the highest attainable point, while the downward curve, towards the resting

point, the breast, indicates the sudden and rapid decline from that elevation. This represents the most complete reversal of the bearing of gravity that the human body can practicably be made to effect upon the same plane.

The second figure scarcely requires particular description, as the manner in which the reversal of gravity must fail is sufficiently obvious. The last is to indicate an outline of the body which, though entirely different from the other, is still equally unfavorable to the reversal of gravity in a way that would promote uterine replacement by equilibrium of pressure.

FIG. 148.



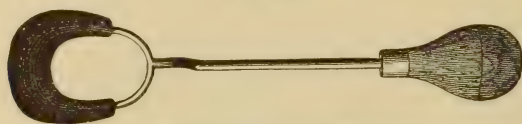
Replacement of uterus by volsella and finger in the rectum (Hart and Barbour).

In no form of uterine displacement or flexion should a pessary be applied until the displacement or flexion has been first rectified, and in cases of retroflexion or retroversion this may most readily be accomplished in the genu-pectoral position with the assistance of pneumatic pressure applied by retraction of the posterior

vaginal commissure so as to allow of the in-rush of air and distention of the previously collapsed vaginal canal.

Should the displacement be very chronic and marked, especially if the bulk of the uterus (as is the case in the backward dislocations of the gravid state) be such as to offer great resistance to its dislodgement from the abnormal position, this may be greatly facilitated by the use of Duke's repositor. In such cases this instrument—which, as you may see, resembles closely the upper arm of a large Hodge pessary attached to a long handle—should

FIG. 149.



Duke's uterine repositor.

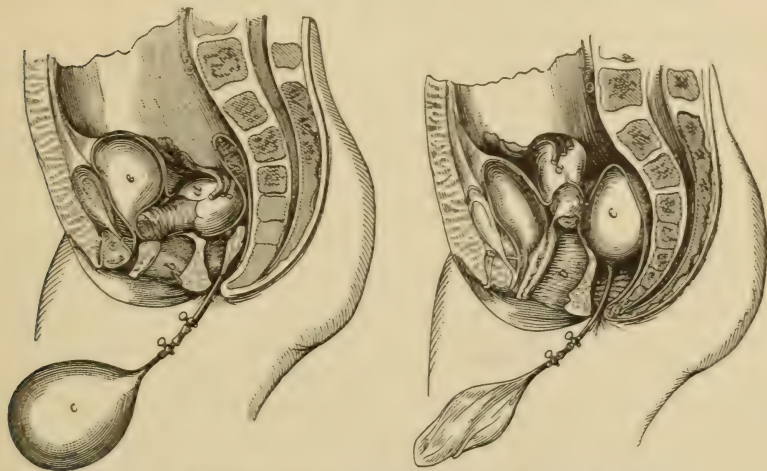
be passed up into the posterior vaginal cul-de-sac; then, by drawing the handle well back against the perineum and making steady gentle pressure upward and forward, we can readily exercise such powerful leverage on the fundus uteri as will generally suffice to overcome the displacement.

In some exceptional instances, however, the dislocation is of such extent or of such long endurance when brought under notice that the uterus, which may, moreover, be bound down by adhesions in the abnormal position, cannot be removed by the procedures just described, and the deviations, being chronic, may require more gradual rectification. For this purpose a stout india-rubber bag should be introduced into the rectum and slowly distended with air or tepid water to the fullest amount of expansion, and retained as long as it can be tolerated, which will seldom be for more than six or eight hours at a time, during which the patient should remain in the genu-pectoral posture as long as possible and then lie in the prone position until the removal of the bag from the rectum, when the malposition will generally be found removed.

As I have a penchant for referring to the history of gynæcological methods, especially when, as in this instance, their credit belongs to a forgotten Irish surgeon, I may mention that the plan of treatment just referred to was originally suggested and de-

scribed (in the *Dublin Quarterly Medical Journal*) half a century ago by Mr. Halpin of Cavan. In a case where all other means had failed to replace a retroversion, "it suddenly occurred to me," says Mr. Halpin, "that with the assistance of a bladder I

FIG. 150.



Treatment of retroversion by continuous pressure through the rectum.

should be able to inflate the pelvis and thus raise its contents into the abdomen. We acted on this suggestion. I attached a small recent bladder to the tube of a stomach-pump with an air-tight piston, and, having immersed it for a few moments in warm water, to bring it to the heat of the body, I introduced it empty into the vagina between the fundus of the uterus and the rectum. Retaining it within the vagina by holding my hand firmly across its orifice, Dr. T. inflated it slowly and steadily. After a time she complained of tension or bursting, but no pain. We then ceased throwing air into the bladder, allowing what was in already to remain, keeping up, as it did, a steady, equal, well-directed pressure in the tumor. After the expiration of five minutes we throw more air into the bladder, when the patient exclaimed, 'Oh, how you are forcing something up to my stomach.' I retained the bladder some time longer in its situation, and then, previous to withdrawing it, permitted the escape of some air. I introduced my finger, and had the satisfaction of finding that the tumor was no longer in the pelvis, and that the

os uteri lay within reach of my finger, pointing downward and backward. I then, and not till then, removed the apparatus."

FIG. 151.



Sims's elevator.

FIG. 152.

Emmet's
elevator.

Employment of the Uterine Sound as a Repositor.—It may seem strange to you, gentlemen, that in the foregoing remarks on the replacement of a retroverted or retroflexed uterus I have not alluded to the means which is most commonly advocated for this purpose, and which you have seen employed by myself in some instances. I refer, namely, to the employment of the sound or any similar

intra-uterine instrument as a repositor in such cases. My reason, however, for not referring earlier to this point is that I consider that the sound, although invaluable as an aid to diagnosis, should as a repositor be a *dernier ressort* in the treatment of these displacements. I know that in that view I differ from some of the highest recent authorities on this subject. Nevertheless, I also know that I have here successfully treated the majority of my cases of uterine displacements without the employment of any intra-uterine instrument. And I am further cognizant from actual observation of the ill effects, in the way of endometritis, pelvic cellulitis, and even the perforation of the uterine walls, that not unfrequently result from the injudicious employment or abuse of the sound in the hands of incautious practitioners. In that category I do not mean to include those eminent writers who rely so much on the sound as a general means for the rectification of

uterine deviations, but I certainly believe that their precepts are,

unfortunately, too often acted on with most injurious consequences by their less judicious followers in cases of retroversion.

In some exceptional cases, however, such instruments may be used with advantage, provided always that they be employed in a suitable manner and in suitable instances. By the former I mean that the sound should be passed in the way I have previously pointed out,—namely, with extreme caution and gentleness, in whatever direction the uterine displacement may necessitate, being merely guided, not forced, through the cervical passage, which should be drawn on the instrument by traction from below by the vulsellum, and into which it should never be forcibly or hurriedly pushed. Moreover, as the ordinary sound when used as a pivot on which to rotate a flexed uterus is very liable to penetrate the uterine wall, it would, I think, be better, whenever it is necessary to resort to any kind of intra-uterine mechanical help in retroflexion, to select an instrument with a stop or shoulder, such as Sims's or Emmet's elevators, or else Dr. Bantock's repository, or my own "adjustable sound," with any of which such an accident cannot so readily occur, and with which the uterus may be gradually moved in any required direction by the screw adjustment from the handle.

LECTURE XXIV.

TREATMENT OF RETROFLEXION AND RETROVERSION, PALLIATIVE AND RADICAL (CONTINUED).

GENTLEMEN,—Having described in the preceding lecture the methods of effecting the restoration of the retroflexed or retroverted uterus to its normal position, we have next to consider the means by which the recurrence of the displacement can be obviated, viz., mechanical support by pessaries, in addition to which certain operative procedures, that will be subsequently referred to, are now advocated

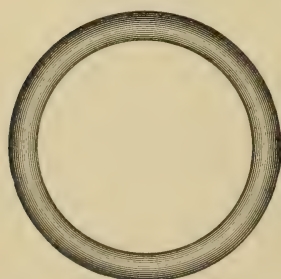
Use of Pessaries.—With regard to the application of mechanical supports in the treatment of these or any other uterine displacements, it is of primary importance not only that the instrument selected should be specially adapted in form and size to the

particular case in which it is employed, but also that its material should, as was recognized even in pre-aseptic days, combine firmness, lightness, and closeness of texture: firmness, that it may not yield to pressure; lightness, that it may not incommode by its weight; and closeness of texture, that it may not imbibe the secretions of the vagina. Those made of vulcanite possess all these advantages, and can, moreover, by a few minuets' immersion in boiling water be extemporaneously moulded to any required shape. The next best material, viz., aluminium, though equally light and aseptic, cannot be thus adjusted; whilst the block tin and copper pessaries frequently employed, however coated, are speedily corroded by the vaginal secretions. And, lastly, gutta-percha and india-rubber-covered pessaries, although still used by many practitioners, should be entirely discarded, as after being in the vagina for a short time they invariably become more or less disintegrated, and, unless very frequently removed and cleansed, are eventually converted into abominably foul and fetid nests of sepsis.

As to the form of pessary most suitable for the treatment of retro-displacements there are nearly as many opinions as there have been writers on this subject. It would therefore be a waste of your time and my own to attempt any full account of the countless varieties of this instrument, some of which are here exhibited.

Among all the vast number of pessaries which have been thus suggested during the last twenty years, probably the most generally useful, and certainly the simplest as well as the cheapest, is a plain vulcanite ring of whatever size and thickness may be required, which can be readily converted in the manner already stated into almost any shape required. Of these shapes that originally suggested by Dr. Hodge, of Philadelphia, and by which his name has been made as "familiar as a household word" in every land, and some of its modifications, such as Thomas's and Albert Smith's, as well as the more flexible instruments designed by Greenhalgh, are here shown.

FIG. 153.



Ring pessary.

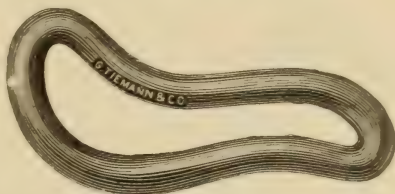
It would be needless here to enumerate all the other modifications of the Hodge pessary which are included in every recent

FIG. 154.



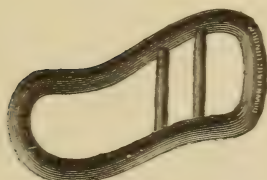
Original Hodge pessary.

FIG. 155.



Albert Smith's pessary.

FIG. 156.



Greenhalgh's hard-rubber pessary.

FIG. 157.



Thomas's pessary.

FIG. 158.



Thomas's Smith-Hodge.

FIG. 159.



Elastic spring and cushion pessaries.

FIG. 160.

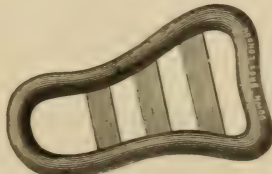


FIG. 161.



Greenhalgh's soft-rubber pessaries.

FIG. 162.



surgical-instrument catalogue. Of these I prefer my own, viz., the "roller pessary," which was chiefly designed for cases of

retroversion and retroflexion as well as for those less generally recognized, though not less important, instances of ovarian displacement or prolapse into Douglas's fossa that are so commonly met with. The advantages claimed for this instrument are, first, greater facility of introduction, which in the roller pessary is favored by the rotation of the upper arm of the support; secondly, more certainty of filling the cul-de-sac, and so overcoming the tendency to descent of the replaced organs; thirdly, the obviation of the pressure troubles frequently occasioned by the pessaries ordinarily employed; and, fourthly, the absence of any fixed point or shelf for the lodgement of discharges or septic matter. Besides these points, which, as I claim,

FIG. 163.



More-Madden roller
pessary.

are gained in this form of uterine support, there is another, and, as I think, a still more important advantage connected with the rotatory movement of its upper arm, namely, a greatly diminished risk of the pessary slipping from the usual cause of this occurrence. As every gynæcologist is aware, in nine cases out of ten that accident arises from the expulsive efforts of the patient to dislodge a mass of hardened fæces from the upper rectum. In the instrument now referred to this displacement is prevented by the roller action, by which the pessary is made to travel slightly upward instead of being forced down, as in other pessaries, by the fecal pressure through the recto-vaginal wall.

Method of Introducing Pessaries.—Assuming that you will adopt the view of the lever action of the Hodge pessary or its modifications, I have now merely to describe the methods of employing these instruments. Having placed the patient in the left lateral semi-prone position, you open the vulval orifice with your left index finger and draw the fourchette well back towards the sphincter ani; next, holding the pessary by its narrower or lower end between your right forefinger and thumb, you pass the upper arm of the instrument obliquely through the vaginal orifice, guiding it upward and backward in the direction of the axis of the canal, taking care to pass well behind the cervix, until it is safely lodged in the posterior cul-de-sac, the convexity of the upper curvature then looking forward and the distal extremity of the appliance

resting lightly over the symphysis pubis without any pressure on the vesical neck. If such pressure be produced, the instrument is too long, and should be immediately withdrawn and replaced by one more suitable. When thus properly adjusted a well-

FIG. 164.

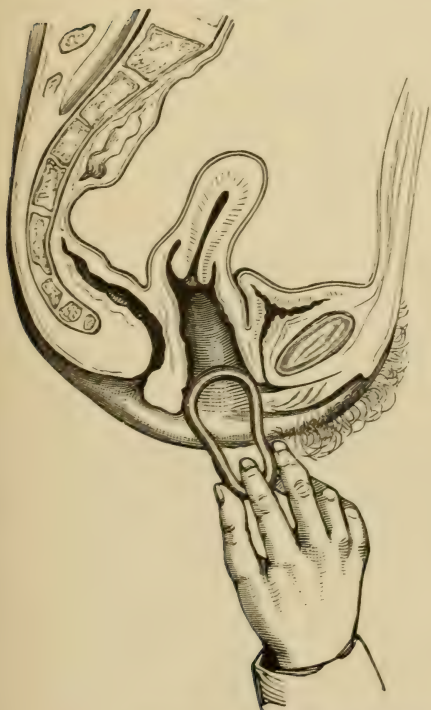
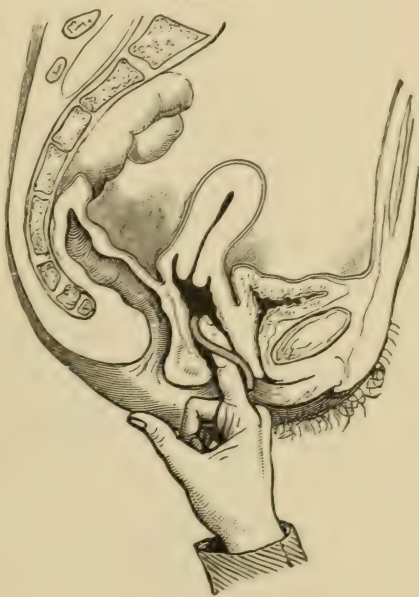


FIG. 165.

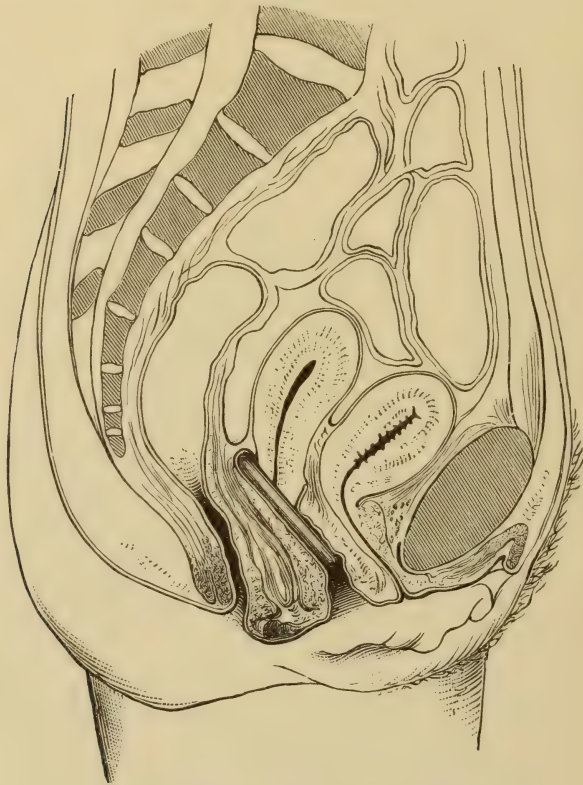


Introduction of pessary; first and second stages (Hart and Barbour).

fitting pessary will prevent the recurrence of either retroflexion or retroversion as long as it remains *in situ*, and causes neither pain, bladder trouble, nor difficulty in marital intercourse, but, on the contrary, affords a sense of support and comfort to the previously suffering patient. The pessary may be left undisturbed for a month or six weeks, after which it should always be removed and cleansed, and then, if necessary, replaced each month by a pessary of gradually increasing curvature or size, until the tendency to displacement may probably eventually be thus completely and permanently overcome.

In reference to pessaries in which the *point d'appui* of the support is external to the vagina, one of which is shown, I shall

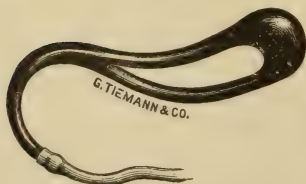
FIG. 166.



Position and action of pessary (Hart and Barbour).

only add that, in my opinion, the serious discomforts occasioned by their use are not compensated for by any probable advantages in the cases now under consideration.

FIG. 167.



Cutter's retroversion pessary.

ally be required, applies still more to their employment in

Stem Pessaries.—With regard to stem pessaries, which are employed by some practitioners in such cases, what I have already said on their possible ill effect in cases of ante-flexion, in which they may occasion-

cases of retro-displacements, in which they are seldom if ever necessary.

Operative and Radical Treatment of Retro-Displacements.—I have now described the means by which retroversions and retroflexions may generally be rectified, and by which I have found that their recurrence may be safely and effectually obviated and in many instances permanently prevented. These results, which seem to me sufficiently satisfactory, are not so regarded by some gynecologists, who advocate more heroic methods for the radical cure of such displacements. The procedures intended for this object are chiefly two, of which various modifications have been designed,—viz., first, shortening of the round ligaments, and, secondly, the surgical fixation of the fundus uteri to the abdominal wall. The following account of the former of these operations is abbreviated from the description given by Dr. Alexander, of Liverpool, by whom it was originally suggested.

The patient, having first had her bowels and bladder emptied, is anæsthetized, the pubes is shaved, and an incision is made from the pubic spine upward and outward, from one to two inches in length, in the direction of the vaginal canal, which incision is deepened until the external oblique muscle is reached. The fibres crossing the external abdominal ring are then divided in the direction of the vaginal canal, in which a characteristic reddish tissue mixed with fat bulges out. This is the end of the ligament before it spreads out on the mons veneris. Under this fatty mass an aneurism-needle is now passed, so as to raise it out of the canal and allow it to be grasped by the fingers; the ligaments are next gently drawn out, their attachments and accompanying nerve being cautiously separated. The white fibrous structure of the cords then becomes evident, and these may easily be pulled out until they are felt to control the uterus, which is maintained in the proper position by a sound in the hands of an assistant. When the ligaments are pulled out to the required extent, they are held by an assistant while the operator fixes them to the pillars of the external ring and to the edges of the wound with a suture of fine silkworm gut, silk, or silver wire, passed through the outer part of each pillar of the external abdominal ring and intervening ligament. Another suture is passed in like manner internal to the first. These sutures should

not be pulled so tight as to strangle the ligament. A small drainage-tube is passed into the canal for about a quarter of an inch, to prevent any collection here. A portion of the slack of the ligaments may now be cut off, the bleeding ends ligatured, and the remainder stitched into the wound by means of the two sutures, which are generally sufficient to bring the edges of the wound together. A Hodge pessary is placed in the vagina and the sound withdrawn. The patient's knees are then flexed over a pillow, as after an operation for hernia, and a morphine and atropine injection, if necessary, is given to relieve pain.

The subsequent dressing depends on circumstances. As a general rule, the wounds heal by first intention, if the strict antiseptic precautions on which Dr. Alexander insists are used and the ligaments are not pulled so tight that one is strained by the other. If the buried sutures give trouble and produce a sinus, this should be opened up and the irritating suture removed. When old-standing or acute retroflexion is treated by this operation, a substantial stem pessary should be inserted, as well as a Hodge, and maintained for about a month, or until the recoil of the straightened uterus has disappeared. These pessaries maintain their position while the patient is recumbent, and should always be removed at the end of the recumbent period.

Having now given a sufficiently full *résumé* of Dr. Alexander's procedure, I think it needless to refer to its modifications, to all of which I think the same objections are equally applicable,—viz., first, that they are, generally speaking, unnecessary in retro-uterine displacements; secondly, that, even after their apparent immediate success, the malposition is liable to recur. For as long as the original cause of displacement, such as a fundal tumor or hypertrophy, exists, the ligament, however shortened, must, I believe, again yield to the strain thus put on it, and again become stretched and elongated, just as an india-rubber cord would under similar traction.

With regard to the still more serious operations which in some schools of gynæcology are advocated for the radical cure of retro-uterine displacements,—*e.g.*, the fixation of the uterus to the abdominal walls, or hysterorrhaphy,—I shall not long occupy your time, as I object *in toto* to such operations, on the grounds of their being, as far as my experience goes, generally unneces-

sary, and therefore not generally justifiable, involving, as these procedures must, all the risks, septic and others, of intra-peritoneal surgery, and moreover, even if successful in their immediate results, constituting a grave danger should the patient again become pregnant. Such operations belong to what is often spoken of as heroic surgery, though I myself fail to see where the heroism lies in subjecting *others* to any risk that can possibly be avoided. In this respect you can never go astray if, keeping in mind that infallible dictum, "Do unto others as you would that others should do unto you," you will for a moment suppose the patient's case is that of some one near and dear to yourselves, and then act as you would under such circumstances. If you do this, you will, I believe, probably remain content with being able to relieve effectually those common uterine displacements which you are likely to meet with, without resorting to any of the operations of intra-peritoneal surgery for their possibly more radical and permanent cure.

Treatment of Adhesions in Retro-Displacements.—The reposition by recto-vaginal manipulation of the retroflexed or retroverted uterus when bound down by adhesions or cicatrices, and especially when such adhesions are fine or cordiform, has been ably advocated by Dr. Schultze, of Jena, as well as by Drs. Macan and A. Smith, of Dublin, and in America has been supported among others by Drs. Erich, of Baltimore, and Mundé, of New York. The details of this procedure as described by Professor A. Smith may, therefore, be here briefly cited. "Having," he says, "irrigated the rectum, I passed the index and middle fingers of the right hand above the inner sphincter, and the thumb of the same hand into the vagina. With the left hand acting through the abdominal walls, I grasped the fundus of the uterus and lifted it up, thus defining the adhesions which prevented its complete reposition, and mapped out the utero-sacral ligaments, which passed away on either side in the form of a crescent, gradually disappearing towards the sacrum. With the fingers in the rectum, placed between these sacral ligaments and kept close to the fundus of the uterus, which was steadied by the external hand, I separated the fine adhesions, tearing through some, breaking through others, by a side-to-side motion, just as one separates the placenta. The force employed was slight, and was regulated

by the density of the adhesions. The separation was accompanied by a peculiar creaking sensation like new leather, produced, no doubt, by the friction over the freshly-separated surfaces. . . . Having satisfied myself that both uterus and ovary were now completely free from adhesions and reducible, I introduced into the vagina a No. 8 Hodge pessary, modified to increase the posterior curvature, in order better to insure keeping the ovary and uterus in position. I then washed out vagina and rectum, and put in a morphia suppository, one-half grain.”¹

The dangers of Schultze’s method are the risks of hemorrhage from the freshly-separated surface, of which Smith relates an instance, or of subsequent peritonitis, which, according to the same writer, will not occur if a thorough examination and proper selection in the cases so operated on be previously made.

LECTURE XXV.

PROLAPSUS OF THE UTERUS.

GENTLEMEN,—The most frequent of all the various deviations of the uterus from its proper anatomical position in the pelvis are displacements downward. Under some circumstances, moreover, a certain amount of descent of the womb may be regarded as a normal or physiological condition, as is exemplified in the latter months of pregnancy and during parturition, as well as, though in a minor degree, at each menstrual epoch. On the present occasion we have, however, to consider only the abnormal conditions included in this term,—viz., first, the descent or partial prolapse of the uterus within the area bounded below by the vulvar aperture; and, secondly, its extrusion beyond the external genital parts, to which the term *procentia uteri* is applied.

Causes of Prolapsus Uteri.—Among the circumstances predisposing to “falling down of the womb” the influence of age, the

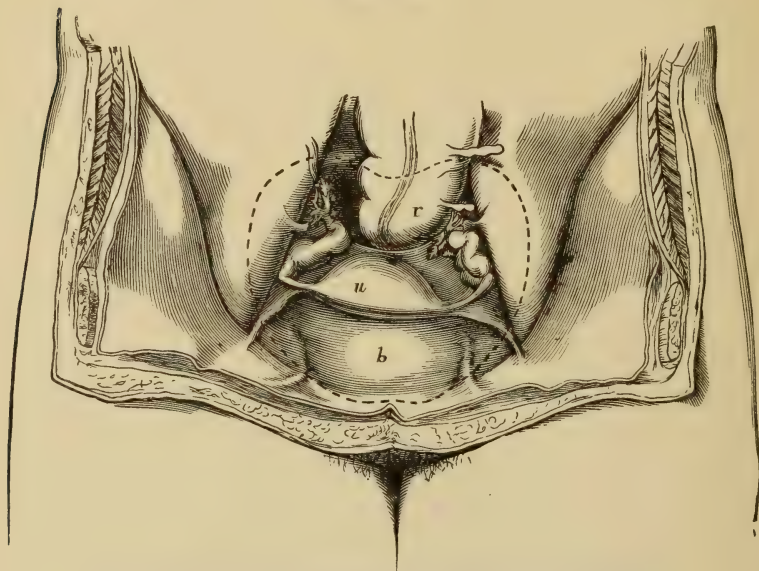
¹ A. J. Smith, in Transactions of the Royal Academy of Medicine, Ireland, vol. viii. p. 331; *vide* also Macan’s edition of Schultze on Displacements of the Uterus, p. 329; also, Presidential Address, by A. V. Macan, M.D., British Gynæcological Journal, May, 1889.

condition as to marriage and fecundity, and the occupation, as well as the state of the patient's health, general and uterine, in each instance are of special importance. You have, I am sure, observed that the great majority of the cases of prolapse here treated are married women or widows, approaching or beyond the period of the menopause, who have previously borne children ; and also that these displacements are of much more frequent occurrence in the poorest and hardest-worked class of our dispensary patients—such as char-women and laundresses, whose occupations are such as to favor the mechanical causes of descent of the uterus, and whose general condition has been impaired by poverty, privation, and faulty hygienic surroundings—than in the better-circumstanced class of country patients in our wards.

Immediate Causes.—The most important of these, particularly as seen in hospital practice, is the too-speedy resumption of the erect posture before the involution of the uterus has been accomplished after parturition. Considering the size and weight of the uterus and the relaxation of its supports, and the open state of the passage, as well as the fact that the wives of the poor, in this country at least, commonly return to the toil and drudgery of their daily lives within a week or so after delivery, the marvel is not that so many of those women should suffer from prolapsus uteri, but that any of them should escape this accident. Secondly, among the frequent causes of “falling of the womb” are the development of intra-uterine tumors or any conditions, such as chronic endometritis or areolar hyperplasia and subinvolution, by which the size and weight of the uterus are abnormally increased. Thirdly, the pressure from above on the fundus of any ovarian or other tumors, intra-pelvic or abdominal. Fourthly, relaxation of the suspensory or round ligaments of the uterus, which, rather than the broad ligaments, have restraining power on downward displacements. Fifthly, the influence of undue pressure on the fundus uteri and the too protracted and rigid maintenance of the dorsal decubitus during parturition and in the puerperal state, to which attention was directed by Dr. Duke, of Cheltenham, and at almost the same date by Dr. A. L. Smyth, of Montreal, in an excellent paper “On the Prevention of Retroversion,” in the *Journal of Gynæcology*, September, 1891. Sixthly, any impairment of the normal supporting tonicity of the vaginal column.

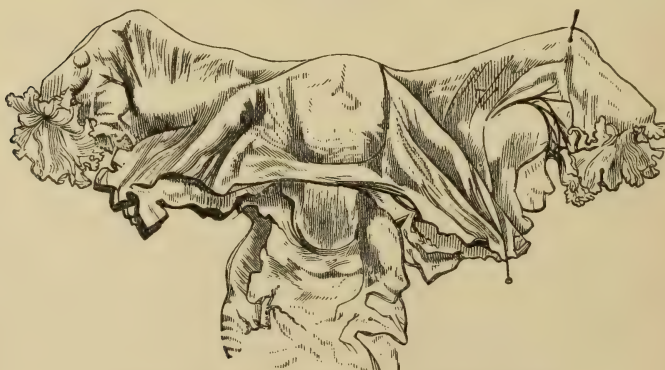
And lastly, though certainly not least in importance, as a frequent cause of prolapsus uteri must be mentioned the disruption by parturient lacerations of the perineal body or pelvic floor.

FIG. 168.



Pelvic organs *in situ*, viewed in the axis of the brim (after Schultze).

FIG. 169.



Anterior view of the uterus and its appendages (Quain).

Influence of Age and Condition.—This displacement, although, as already observed, most common in advanced life, is not con-

fined to any age, but may occur from the earliest period in which any of the causes just mentioned can exist. Of its occasional occurrence even in girlhood I have myself met with examples, but none so remarkable as that recorded by Dr. Munro, who related an instance of this kind in a child three years of age. Without referring further here to these curiosities of medical experience, it will suffice for our present purpose to say that descent of the uterus may take place prior to pregnancy, during gestation, or during labor, as well as subsequently to parturition. The latter, however, as I may repeat, is the general rule; and the ante-partum occurrence of extensive displacements of the uterus downward, and especially in young subjects, must be regarded as very exceptional.

Symptoms of Descent of the Uterus.—The amount of trouble and the symptoms produced by a falling of the uterus are obviously dependent on the extent of its displacement or of the pressure thereby occasioned on the adjoining organs. Even in the earlier stages and minor forms of prolapse, however, the general symptoms are always sufficiently characteristic. Of these the most constant are a peculiar intra-pelvic dragging sense of weight or bearing down, pain in the back, across the sacrum and hips, and extending down the thighs, together with irritability of the bladder. These troubles are aggravated by any exertion or by long standing, and relieved by the recumbent position, and should lead to a vaginal examination, on which the displacement at once becomes evident.

If the case be one of prolapse, the cervix or os uteri will be felt in an abnormally low position in the pelvis, varying from the smallest amount of cervical descent to the pressure of the entire uterus down on the perineal floor, whilst the vaginal mucous membrane will also be found relaxed and bulging out into the shortened passage. On the other hand, if the descent has reached the stage of procidentia, either the cervix, with its then generally unhealthy os, or else the completely extruded organ, will at once come into view on separating the thighs, and thus any doubt which may have existed as to the nature of the case will be immediately dispelled. In the latter instances, if the misplacement has been of long duration, the exposed mucous surface of the uterus and vagina will have become hard and dry and cuticular,

and will be moreover in most cases the seat of one or many deep and generally extensive ulcerations.

FIG. 170.



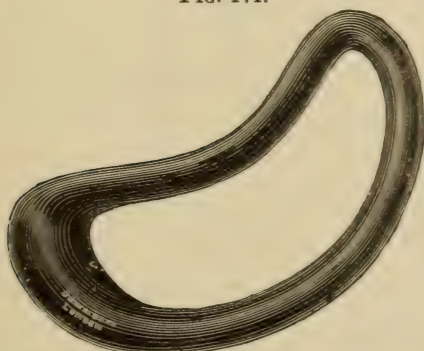
Procidentia uteri (A. Duke).

Diagnosis.—It might perhaps seem needless to refer to the discrimination between other diseases and a condition so apparently obvious as prolapse of the uterus, yet, as I have seen mistakes made on this point, a few words in reference to it are here necessary. In the first place, then, a slight degree of prolapse might possibly be confounded with the hypertrophic elongated cervix of an otherwise normally situated uterus, though this error can easily be prevented by a simple bimanual or recto-abdominal examination, by which the position of the fundus and body of the uterus may be mapped out. Inversion of the uterus or pedunculated fibroid, or uterine polypus, or a cystocele has occasionally been confounded with procidentia, from all of which it may be readily differentiated by any properly-educated gynæcologist not only by the presence of the os uteri in the latter, but also by the physical character and appearance of the tumor and the history of the case in the former instances.

Treatment of Descent of the Uterus.—The replacement of the uterus in uncomplicated prolapse can generally be most readily effected in the ordinary left lateral semi-prone position. In some

cases, however, where, either from chronic hyperplasia or fixation of the uterus or from the pressure of tumors or other uterine or peri-uterine abnormal conditions, the reposition cannot be thus accomplished, as well as in all cases of complete procidentia, the genu-pectoral position must be employed. In this posture the mobile viscera, as was first pointed out by McClintock, fall forward and thus make way for the return of the organ to its natural situation. To effect this the uterus, if completely extruded, should be painted over with hazeline cream or carbolized oil, then grasped and compressed for a few moments, so as to diminish its abnormal bulk as far as possible, and the cervix pushed up in the direction of the pelvic axis until the entire tumor is replaced, the prolapsed vagina being last returned. In many instances of chronic procidentia the acquired bulk of the hypertrophied and congested uterus, however, renders this impossible until it has been first reduced, either by strapping the extended organ from cervix to fundus with adhesive plaster, or more speedily by the application of a Martin's rubber bandage in the same way. With regard to the ulcerations which in such cases are generally observed on the exposed surface, the best remedy is the reposition of the womb, on which they will rapidly fill in and heal without any special treatment beyond the application of a little iodoform to each ulcer before the uterus is returned.

FIG. 171.



Galabin's pessary for prolapse.

FIG. 172.



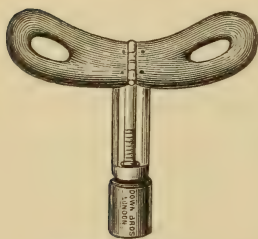
Celluloid ring for prolapse.

Use of Pessaries for Prolapse.—The next point in the treatment of prolapse is the retention of the replaced uterus in its proper position. To secure this, as a rule, the support of a suitable

pessary, together with the employment of boric acid powder or alum or tannin injections as local astringents to induce a return to its normal condition of the relaxed vaginal walls, will be sufficient.

For the first purpose, in our dispensary we generally rely on the vulcanite ring as being a cheap and generally effectual instrument; both of these advantages are possessed by Galabin's pessary. In private practice, however, in which cheapness is of less

FIG. 173.

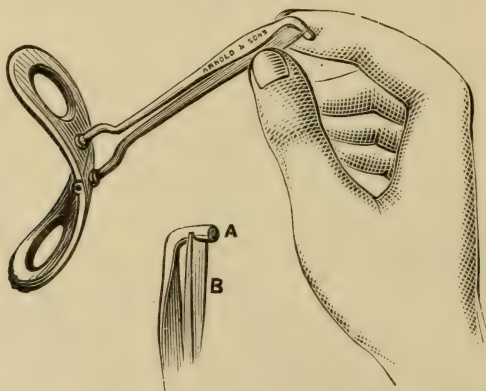


Zwanz's pessary.

importance, I generally employ either Zwanz's pessary, which is not liable to be forced out of position by any uterine pressure downward and may be daily removed for cleansing and readily replaced by the patient, or Godson's modification thereof, which he thus describes: "Every variety of Zwanz's pessary hitherto in use has its objections. Speaking of them as a body, it is said they are

dangerous, as liable to exert pressure upon the soft parts, causing fistulous communications with the bladder and rectum. To ob-

FIG. 174.



Godson's modification of Zwanz's pessary.

viate these objections, I have contrived a form of Zwanz, manufactured by Messrs. Arnold, which has already proved to be a very useful pessary. The upward part is made of vulcanite, and is extremely cleanly, light, and durable. The lower portion, em-

ployed for locking, is made of metal. The patient walks about or sits down with comfort."

A simpler and very efficient instrument of the same kind is that introduced by Dr. Duke under the name of the "camp-stool pessary," the principal advantage of which is that, whilst embodying the retentive power of the Zwanck, the objectionable projecting vaginal stem is entirely done away with.

Whatever pessary be used, especially in cases of procidentia, it should be borne in mind that the vagina is always largely dilated by the displacement, and hence for some time after reposition a large-sized support will generally be required to prevent return of descent. After a few weeks, however, the vaginal walls again become contracted, and on each replacement of the support, which should be done at intervals of a few weeks, a smaller

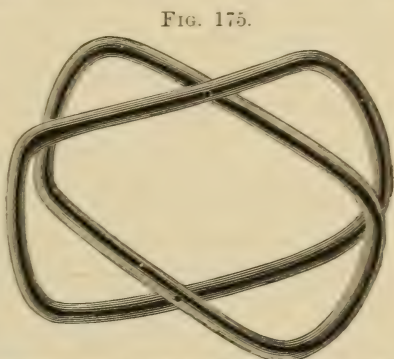


FIG. 175.

Duke's double "Hodge" or camp-stool pessary for prolapse.

instrument may probably be applied. The necessity of this rule is obvious, and its neglect is occasionally productive of much trouble, as was recently exemplified in a case of prolapsus uteri in the next ward, where you saw a large disk pessary, which had been introduced two years previously, so firmly encircled below by the contracted vagina that we were obliged to break it up with a bone-forceps before removal could be effected.

In every case, after the reposition of a prolapsed uterus, the support of a well-fitting abdominal belt or binder should be employed to uplift the anterior ventral wall and take the weight of the viscera off the uterus. With the same view, the patient should be warned against wearing those tight-laced corsets so dear to the sex at all ages, and by the aid of which the portly matron of forty vainly endeavors to reduce her rotund figure to the more graceful proportions of youth, and in so doing forces her abdominal viscera down on the pelvic organs and thus causes uterine prolapse.

Such is the generally effectual routine treatment of ordinary cases of prolapsus and procidentia. In both cases, especially in

the latter, however, it will frequently be found necessary to restore a lacerated perineum as a preliminary to the retention of the uterus *in situ*.

OPERATIVE TREATMENT OF RETRO-DISPLACEMENTS.

Perineal Operations.—As already mentioned, one of the most important and frequent factors in the causation of prolapse and procidentia uteri is the disruption by parturient injuries of the pelvic floor. Hence obviously it is impossible that in such cases those displacements can be satisfactorily dealt with until the integrity of the perineum has been restored. The various other operations by which this object may be accomplished have been fully discussed in my previous lecture on perineal lesions, and hence in this connection I confine myself to a brief reference to two methods of restoration of the perineum, or perineum and recto-vaginal septum, which may be specially applicable in these cases. Of these the first is that devised and described by Dr. H. O. Marey, of Boston,¹ which differs from other operations for the same purpose in the following particulars :

“1. The dissection of the posterior third of the vagina, not its mucous membrane, from its vulvar attachment, carried, as deemed necessary, into the recto-vaginal space, and the retention of this flap.

“2. In rectocele with prolapse, the closure of the deep layers of the post-vaginal fascia by a continuous buried animal suture, taken either in single or double stitch.

“3. In lifting forward the vagina from its vulvar attachment, the retracted transverse perineal muscles, with their connections, can be reached and closed also by a deep buried suture, making in this way a true restoration of the pelvic floor.

“4. Coapting all superficial surfaces by a buried animal suture, applied in a blind continuous stitch from side to side, covering the same, when dry, with iodoform collodion.

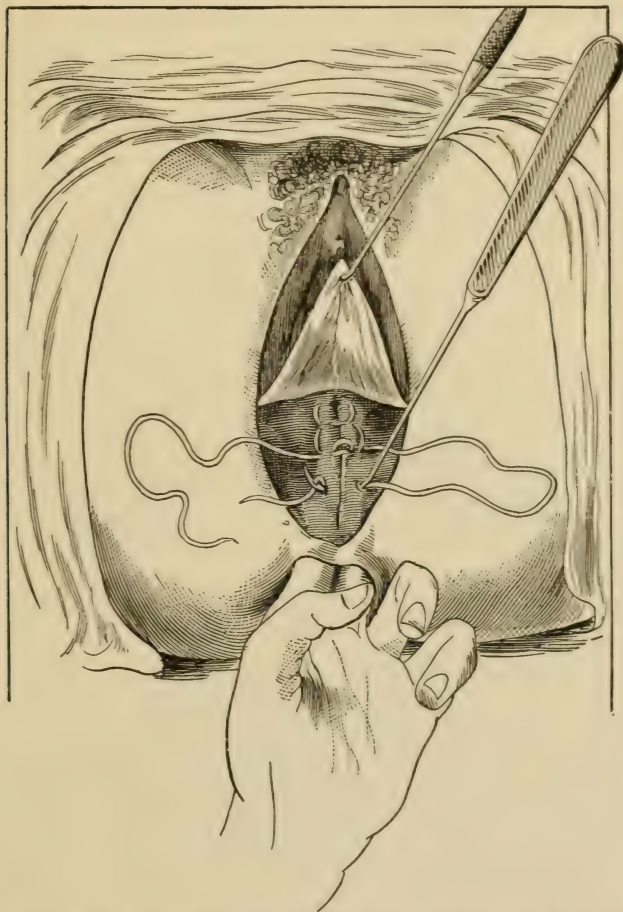
“5. The application of lateral supports, pins external to the sutures as a splint, to hold the parts in complete apposition without strain.

“6. In complete ruptures, the lateral dissection, the joining

¹ The Perineum, its Anatomy and Methods of Restoration after Injury, by Henry O. Marey, M.D., Philadelphia, 1889.

of the rectal and vaginal edges with buried sutures, and then finishing the operation as in incomplete ruptures."

FIG. 176.



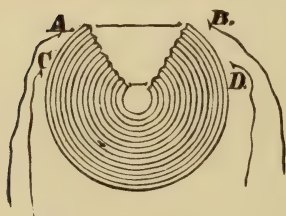
Represents the uniting of the widely-separated transversi muscles by the double, continuous, buried animal suture. The posterior vaginal wall is lifted and held by an assistant. (Marcy.)

Emmet's Operation for Recto-Perineal Laceration.—The occurrence of prolapsus uteri being an almost inevitable complication of extensive lacerations of the perineum, especially when, together with the perineal body (which, as Gaillard Thomas¹ says,

¹ Gaillard Thomas, *Diseases of Women*, 5th ed., p. 162.

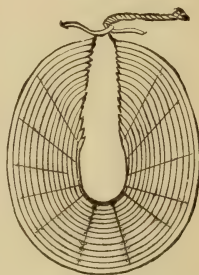
is "the keystone of the arch" on which the womb rests), the recto-vaginal septum is torn through so as to destroy the support normally afforded by the vaginal column to the uterus, I must therefore also refer briefly to Emmet's recto-perineal operation, by which this cause of prolapse may be dealt with. This operation will be easily followed by the aid of the subjoined diagrams, the first two of which illustrate the importance of bearing in mind the retraction that always occurs after such laceration, and the necessity in the subsequent operation, when the edges of the wound are properly freshened, of then introducing the sutures at a sufficient distance from its margin.

FIG. 177.



The proper method of introducing sutures
(Emmet).

FIG. 178.



Faulty introduction of sutures
(Emmet).

"Occasionally," says Emmet, "the laceration through the recto-vaginal septum is found to terminate in a double tear, one being much longer than the others. In this condition success would be doubtful were we to confine ourselves only to the thickness of the walls of the laceration. It is necessary to denude a sufficient portion in addition from the vaginal surface beyond, so as to include both fissures, as shown in Fig. 179. The sutures should be introduced at regular intervals, without regard to either cleft. Then, when the sutures are secured, the freshened vaginal surfaces will be brought together in the median line, as if a simpler laceration had existed. Such a shaped laceration can be closed by interrupted sutures, or by deep sutures introduced through the labia and across the tear at regular intervals.

"This" (operation) "is to be done by means of a tenaculum hooked into the distal angle, so that traction may be made backward towards the cervix by the assistant. The operator then

FIG. 179.

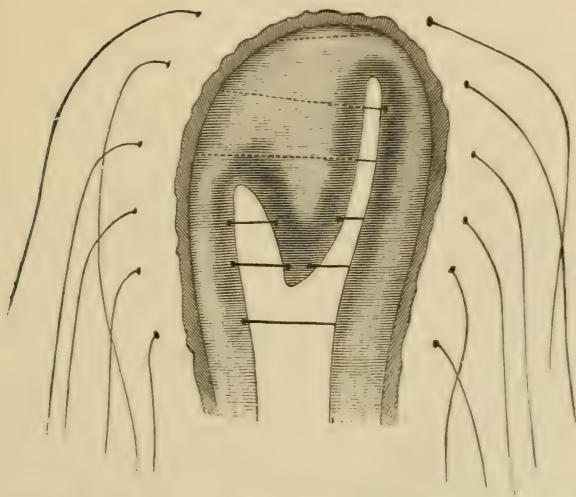
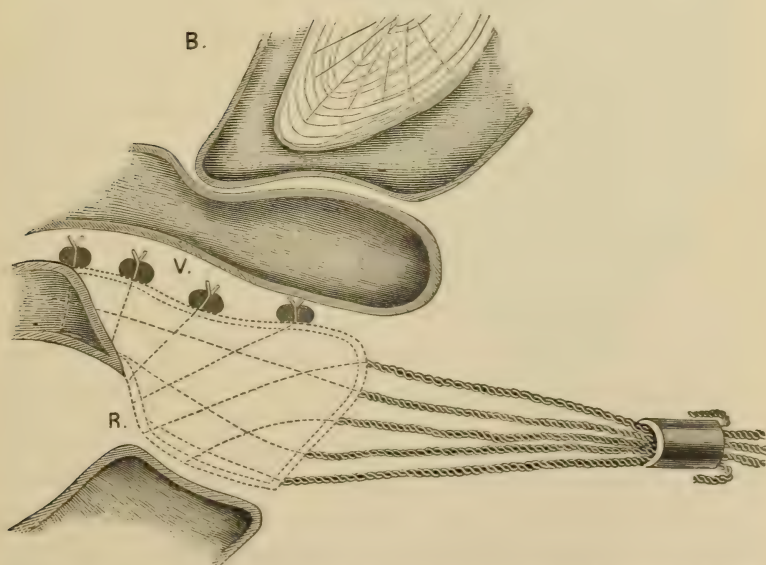


Diagram showing the direction of the sutures in a cleft laceration through the recto-vaginal septum (Emmet).

FIG. 180.



Half section through the pubes, showing the direction of the sutures in laceration through the sphincter ani. B, bladder; V, vagina; R, rectum. (Emmet.)

begins to denude the sides of the laceration by removing with a pair of scissors the tissue nearest to the rectal surface, beginning at the outlet and removing it as nearly in a continuous strip as possible from around the whole line. This plan of denuding from below upward is very necessary to avoid the flow of blood over the surface yet to be freshened. In so doing it is absolutely necessary to remove a portion of the vaginal mucous membrane to insure a broad surface to be united. The angle also must be extended on the vaginal surface for half an inch or more beyond the rectal edge, so as to admit of the introduction of at least two sutures, with the third passed so as to include the angle at the rectal surface. Fig. 180 is intended to show, by a half section through the pubes, the course of the sutures."¹

FIG. 181.



Sims's operation for procidentia uteri (Sims).

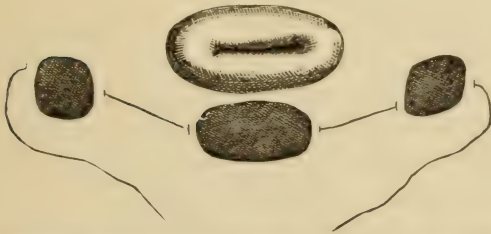
Elytrorrhaphy.—For the radical cure of prolapse of the uterus various methods have been advocated since the time of Marshall Hall and Heming, by whom, so far back as 1831, the idea of effecting the constriction of the vagina so as to prevent uterine descent, by what is now termed colporrhaphy or elytrorrhaphy, or, in plain words, by denuding a portion of the vaginal mucous membrane and then uniting the opposite edges of the wound, in such cases, was originally suggested and successfully carried out. In the earlier operations of this kind the

lower portion of the vagina was the part so dealt with, and the first important modifications in their performance were those of Emmet and Marion Sims, whose procedures, notwithstanding various other more recent modifications, still hold their place as

¹ Emmet's Principles and Practice of Gynæcology, 4th ed., p. 400.

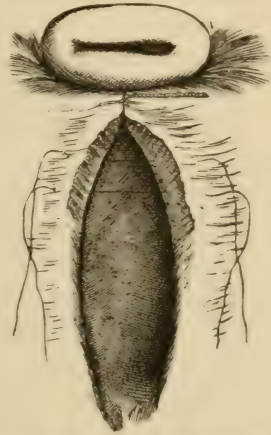
serviceable measures in many instances of aggravated prolapse. Sims's operation consists in the removal of a V-shaped or trian-

FIG. 182.



Emmet's operation for procidentia, as would be seen with the woman on the knees and chest.

FIG. 183.



Folds formed after twisting the first suture (Emmet).

gular portion of the redundant mucous surface of the vaginal roof and anterior wall, the apex being near the neck of the bladder and the two arms extending up on the sides of the cervix uteri, a small portion, as shown in the subjoined sketch, being left undenuded for the purpose of permitting the escape of any secretions forming in the shut pouch. These denuded surfaces are then brought together by silver sutures passed transversely, thus making a longitudinal fold, narrowing the vagina and crowding the cervix backward.

In some instances the same object may be obtained by Schroeder's oval denudation, or, as I have exemplified in one of the most intractable cases of chronic procidentia treated here during the present session, by a strip of denudation almost, but not completely, encircling the vagina, so as to convert it into an hour-glass-shaped passage, in the upper segment of which the uterus was securely located. In that operation I availed myself of the purse-string form of suture which Dr. Percy Boulton has successfully employed in perineal operations.

Péan's Operation for Procidentia.—Another method lately suggested for the radical cure of prolapsus uteri is that of M. Péan, whose procedure, which I have not myself tried, has been thus described by Mundé and Wells: "Péan, in view of the fact that the lateral portions of the vagina are normally fixed to the side of the pelvis with considerable firmness by means of dense con-

nective tissue, this natural fixation being relaxed in prolapsus, proposes to re-establish it by an operative measure. The uterus being first replaced, he passes a double row of sutures along each side of the vagina through the recto-vaginal septum and the vesico-vaginal septum, respectively. Their application is facilitated by the use of long forceps, with one blade in the vagina and the other in the rectum or bladder. The sutures are removed in three weeks. By that time they will have cut through the tissue, inducing the formation of enough cicatricial tissue to act as an efficient support. The vaginal orifice is also narrowed, if torn."

As to the graver operations which in some quarters are favored for the cure of descent of the womb,—such as *ventro-fixation*, either by laparotomy or vaginal method; *extirpation of the uterus*, with resection of the vagina; and *episiorrhaphy*, or closing the vaginal orifice, with the exception of an aperture left for micturition, by denuding and suturing together the edges of the labia majora to a sufficient extent,—all that I need say concerning these procedures or their various modifications is that I have here alluded to them merely in order to express the hope that in the cases now referred to you will discountenance any measures so generally uncalled for and unjustifiable as I myself must regard such operations.

LECTURE XXVI.

INVERSION OF THE UTERUS.

GENTLEMEN,—The last and most serious, although fortunately by far the rarest, of all the displacements of the uterus which I have to bring under your consideration is inversion, or turning inside out, of that organ. In gynæcological practice this condition comes before us in its chronic form, but, inasmuch as its commencement is in at least ninety out of a hundred cases traceable to a midwifery accident during or following the third stage of labor, acute inversion must also be referred to in this lecture, even at the risk of trenching on your obstetric teacher's domain. The statistics of this misadventure, its results, and its treatment were fully detailed in a monograph of mine published a good

many years ago, which, having been used rather freely by some subsequent writers on the subject, I may also perhaps be permitted to here avail myself of.

Acute inversion of the uterus, as just stated, is of parturient causation in nine cases out of ten, and is then with one exception the most dangerous of all the complications connected with childbirth. The rarity of this occurrence is shown by the following figures, which were compiled, whilst I was assistant master to the Rotunda Lying-in Hospital, from its records and reports for the preceding one hundred and twenty-five years. Drs. Hardy and McClintock, also former assistants in that institution, in their observations on deliveries therein, state, "No example of acute *inversio uteri* has ever fallen under our notice," and the accumulated experience of Drs. Clarke, Labatt, Collins, Kennedy, and Johnston, in this hospital, does not furnish a single instance of the occurrence of this accident, though the number of women delivered during their united masterships amounts to upward of seventy-one thousand. During Dr. Shekelton's attendance, when thirteen thousand seven hundred and forty-eight deliveries took place in the Rotunda, inversion of the uterus occurred in one case. Dr. McClintock in his nine thousand one hundred and eighty-nine cases met with no instance of acute inversion, nor did Dr. Denham in nine thousand eight hundred and sixty-seven cases; and up to the end of my period of office as assistant master, when one hundred and ninety thousand eight hundred and eighty-three women had been delivered in the hospital since its foundation, only one case of acute inversion had been observed. More recently, under the supervision of the able obstetricians who have since then directed that great institution, I have no doubt that the infrequency of this accident has been equally well proved. Therefore, as I think that every medical practitioner who meets with any comparatively rare or interesting case should place the facts he observes on record, without regard to the result of his practice, I shall, before entering on the consideration of this subject at large, first narrate the particulars of a case of acute inversion of the uterus which came under my notice some years ago.

Whilst lecturing at the hospital I was called to a consultation with Dr. Torney of Ellis' Quay. When I reached the patient's residence, she was in a state of collapse, pulseless, icy cold,

blanched, respiration sighing, and exhibiting all the symptoms which generally attend cases of great hemorrhage. That this had taken place was also evinced by the saturated condition of her bed. On examination I found the uterus completely inverted, protruding between her legs, with the placenta firmly adherent to the fundus, from which a considerable draining of blood was still going on.

The history of the case was that the patient, M. L., aged eighteen, had been delivered of a living child, at full term, at a quarter-past four P.M. She had a quick and easy labor, which commenced at eleven A.M. that morning. It was her third pregnancy, as she had been married when only fourteen and a half years old. After the birth of the child, as the midwife who attended her informed me, there was considerable hemorrhage during the third stage. The placenta was retained, the nurse endeavored to press it off, and after some time introduced two fingers into the os to ascertain whether or not the placenta was adherent, then directing another woman to make firm pressure over the fundus uteri. She denied pulling the cord or even leaving it on the stretch at this moment. Suddenly, as she alleged, from the pressure on the fundus, the womb became completely inverted and was extruded from the vulva. She now sent for Dr. Torney, who, finding the woman pulseless and moribund, sent up to the hospital for further assistance, and in the mean while applied a sinapism over the heart and administered stimulants, which were repeated again and again.

On my arrival I at once proceeded to replace the uterus, first peeling off the still-adherent placenta. She was then lying in a pool of blood, and the hemorrhage was alarming during as well as before the operation, but was arrested almost immediately after it. I commenced by returning the extruded and inverted uterus completely within the vagina, the part that extruded last being the first returned, and, applying pressure steadily to the fundus, with difficulty succeeded in pushing it through the inverted cervix, there being a persistent convexity of the fundus uteri which it took some time to overcome. I now had the satisfaction of feeling the uterus spring back into the pelvis before my hand and resume its normal position. Dr. Torney also introduced his hand and found the parts *in situ*. We then gave a full dose of Battley's

liquor opii with aromatic spirits of ammonia. She was still cold as death, jactitating, colorless, and pulseless. I now desired to resort to transfusion, but, unfortunately, the circumstances of the case were such as to render this impossible. We, therefore, were obliged to content ourselves with raising the foot of the bed, and applying fresh mustard sinapisms over the heart and to the calves of the legs and hot jars to her feet. There was hardly any draining from the vulva; the uterus contracted firmly, and we bound her up and applied a large compress over it. Ether, brandy, and ammonia were administered freely, her head was lowered from the bed, and, finding the vital power failing still more and more, I again gave thirty drops of Battley in brandy and ammonia. In spite of all our efforts, however, she sank rapidly, and died before seven o'clock P.M.

The only case of this accident which occurred in the Rotunda Hospital from its foundation to the date of my leaving it is narrated in Drs. Johnston and Sinclair's "Practical Midwifery." The patient was nineteen years of age, and was delivered of her first child after an easy labor of six hours' duration. The gentleman on duty, after having tied and separated the funis, had maintained the contraction of the uterus above the fundus, in accordance with the usual practice of the hospital, for a quarter of an hour, when, finding a tendency to "draining," he increased his pressure, but, as he asserted, not nearly to the extent it had been on frequent occasions found necessary to employ in order to assist in the expulsion of the placenta or to restrain hemorrhage. The uterus was felt suddenly to yield and recede from his grasp, and he immediately saw it expelled from the vagina, an inverted mass, with the placenta still attached to its surface. The assistant, having been sent for, on arrival found the woman pallid, exceedingly anxious, complaining of considerable pain, with the pulse scarcely distinguishable. Examination proved the uterus to be inverted, with the placenta attached to the fundus; the funis was of ordinary length, and there was no hemorrhage. Dr. Johnston at once effected reduction, and the patient recovered perfectly in a short time.

Causes of Inversion of the Uterus.—In some exceptional instances this condition results from non-obstetric causes, such as the pressure downward of interstitial or subperitoneal tumors, or,

more probably, the direct traction of polypoid or pedunculated tumors attached to the fundus. In the vast majority of cases, however, the cause of inversion is, as I have said, traceable to unskilled treatment of the third stage of labor, during which, as it is hardly necessary to remind you, the womb may be readily inverted either by undue pressure over the fundus or, as more commonly happens, by reprehensible traction on the funis in meddlesome and misdirected attempts to hasten the expulsion of a placenta still connected with the uterus. Cases are also recorded in which this accident was produced by shortness of the cord, delivery in the erect posture, precipitate labor, inertia of the uterus, or, on the other hand, by the unduly violent expulsive efforts of the patient herself to force off the placenta.

Spontaneous Inversion.—The possibility of this occurrence has been questioned. Nevertheless, too many well-authenticated cases of the kind have been described to leave room for any reasonable doubt that the uterus may be so displaced without the pre-existence of those recognizable tangible causes that I have just referred to. This rare accident was first described by Hunter, who says, “The contained or inverted part becomes an adventitious or extraneous body to the containing, and it continues its action to get rid of the inverted part, similar to an intussusception of an intestine.” It was long held that in every instance of so-called spontaneous inversion a partial displacement or depression of the fundus had previously existed, and that the change to complete inversion was the gradual and natural result of this. The occurrence of spontaneous inversion of the uterus is, as Dr. Barnes points out, generally connected with inertia of that portion of the fundus to which the placenta was attached; this portion of the uterus, being thicker than the rest of the walls of the organ, projects slightly inward, and this projection in cases of inertia becoming gradually increased into a distinct depression constitutes the first stage of inversion.

Stages of Inversion.—Inversion of the uterus, chronic or acute, may be observed in three different stages or degrees. In the first there is merely some depression of that portion of the fundus to which the placenta was attached, which forms a cup-shaped projection into the cavity of the uterus. In the second variety of this accident the amount of inversion is much greater, so that

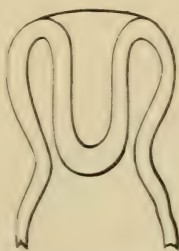
the depression of the fundus is converted into a regular intussusception of the upper portion of the uterus, which is forced downward to the os. Lastly, there remains the third variety or degree of inversion, in which the displacement is complete, the fundus and body passing through the cervix, which encircled with the os may also be turned inside out and protruding from the vulva.

FIG. 184.



Depression.

FIG. 185.



Introversion.

FIG. 186.



Complete inversion.

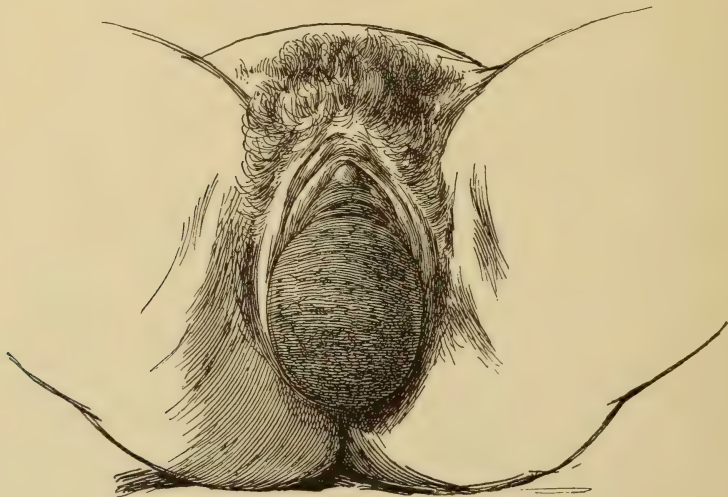
Diagram illustrating the three stages of inversion (after Crose).

Symptoms.—These in every case of this kind are sufficiently urgent. At the moment of the occurrence the patient generally experiences sudden and intense bearing-down pain in the womb. This is almost invariably immediately followed by a feeling of faintness and exhaustion, and the setting in of sudden collapse; the pulse becomes rapid, weak, and intermittent; the skin cold and clammy; vomiting, or at least nausea, is present; the respiration is hurried and sighing; the patient tosses about, moaning continually, and soon becomes unconscious. These symptoms are, of course, aggravated by the accompanying generally profuse hemorrhage, but they exist also in cases in which less serious hemorrhage has occurred.

On examining the parts, if the inversion be complete the nature of the case is self-evident, but if it be only partial, or in the second degree, we must make a vaginal examination, when a tumor will be found in the pelvis, of a globular form, dipping down into a cul-de-sac all around it, about an inch or more in depth, of which tumor the pedicle is the os-constricted inverted cervix. If the case be merely one of simple depression of the fundus, it will not be possible to reach the inverted part without

introducing the hand within the uterus. In all these cases we must rely largely on bimanual examination with the right hand above the pubes and the left index in the vagina or rectum, when, if the case be one of complete inversion, or even of extreme intro-

FIG. 187.



Acute inversion of the uterus (A. Duke).

version, we shall not find the hard contracted uterine tumor in its natural position, and if the case be one of depression we should be able to trace the outline of the depressed fundus between the abdominal parietes in front and the wall of the rectum behind.

Though it would be impossible to overlook complete inversion, yet it is quite possible that partial inversion might not be at once recognized. Hence, if a patient after delivery complains of sudden intense bearing-down pain or evinces symptoms of collapse and shock not to be accounted for by any ordinary form of hemorrhage, the practitioner should bear in mind the possibility of the case being one of *inversio uteri* and at once institute a recto-vaginal and abdominal examination, and if he does not find the globular fundus uteri in its normal position, he should consider and treat the case as one of partial inversion. It has been noticed by several authorities that it frequently happens that complete inversion of the uterus is accompanied by far less hemorrhage than is generally the case when inversion is only partial.

Treatment of Acute Inversion.—In these cases success or failure is mainly determined by the promptitude of the surgeon in effecting the reduction of the displaced organ by the method which has been sufficiently exemplified in the two instances of this kind the details of which I have related and therefore need not again be dwelt upon. In the first place, our obvious duty is to endeavor to effect the immediate reposition of the inverted organ, as already fully described, and, above all, taking care in so doing to replace that portion of the uterus first which came down last. For, if any attempt be made to force the fundus through the cervix whilst the uterus is still in a state of procidentia, the result will be the production of double inversion, and the enormously increased difficulty of pushing back a double thickness of uterine substance through the constricting cervix.

The difficulty of replacing a completely inverted uterus results from the constriction of the inverted part by the cervix. In acute cases every hour increases the tumefaction of the protruded organ and the pressure of the neck of the uterus through which it must pass, until reduction through the undilated cervix may become actually or apparently impossible, and the patient, should she recover from the immediate result of the shock and hemorrhage attending the accident, will survive as a victim of the most distressing uterine sufferings, the nature and method of relieving which I shall refer to in the following lecture.

LECTURE XXVII.

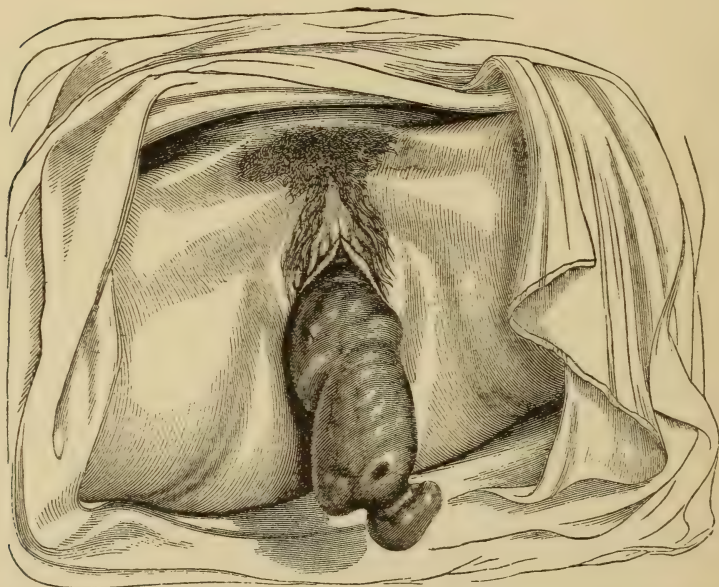
CHRONIC INVERSION OF THE UTERUS.

GENTLEMEN, — Having sufficiently discussed the causation, symptoms, and treatment of acute inversion of the uterus, I have in the next place to bring under your consideration those chronic forms of this displacement which are perhaps of most importance to the gynæcological practitioner. In this hospital I have so far met with only two cases of chronic complete *inversio uteri*, and in my private practice but one instance of this kind has occurred. In these the displacement was consequent on obstetric inver-

sion ; in two of them I succeeded in reinverting and replacing the uterus, whilst in the third I was unable to accomplish this, and, from the urgency of the symptoms, was obliged to resort to amputation of the uterus. Besides these cases I have also met with some incomplete chronic inversions of the fundus, from traction by pedunculated tumors, on the removal of which the depression was rectified.

Symptoms and Diagnosis of Chronic Inversion.—The most constant symptoms of complete inversion are the prolapse of a characteristic tumor into the vagina or its extrusion from the vulva, attended by hemorrhage, aggravated at the menstrual epochs, bearing-down, dragging, pelvic and lumbar pain and profuse

FIG. 188.

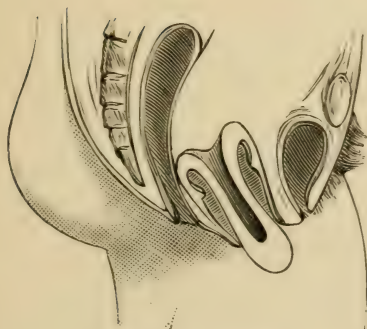


Completely inverted and prolapsed uterus, with a polypus growing from the fundus
(McClintock).

leucorrhœal discharge, together with well-marked constitutional disturbances or debility and anæmia. The diagnosis in such cases is facile or otherwise in proportion to the extent of the displacement, its duration, and the physical condition of the uterus. Thus, for instance, in a case such as was described and depicted

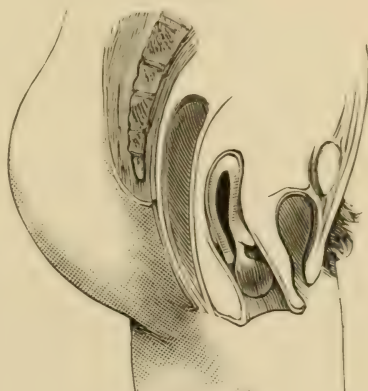
by McClintock, in which inversion was occasioned and complicated by a myoma attached to the fundus, the diagnosis might be

FIG. 189.



Inversion of uterus.

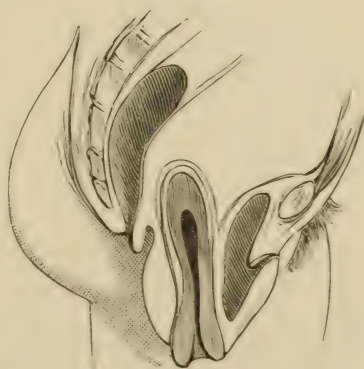
FIG. 190.



Uterine polypus.

a matter of some trouble. As a general rule, however, if the inversion be complete, there should be no difficulty as to the nature of the case, the tumor being too characteristic to permit any excuse for error in its recognition, presenting, as it does, a reddish-pink, vascular, pyriform body, with a somewhat thickened neck, encircled by the os above, covered with a rugous corrugated epithelial membrane, generally very sensitive to touch, and bleeding freely on manipulation. On the other hand, an incomplete inversion may give rise to the most serious symptoms long before their cause has been discovered by a bimanual examination, in the manner described in the preceding lecture, or otherwise. The only conditions with which this displacement might easily be confounded are uterine polypi and prolapse of the uterus, for, although some writers have enumerated in this connection cystocele

FIG. 191.

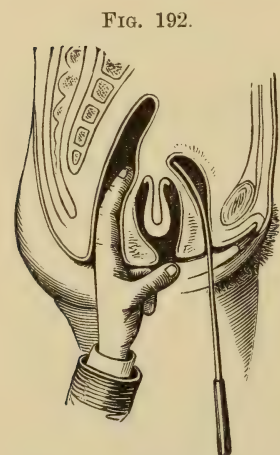


Prolapsus uteri.

and prolapse of vagina, it seems inconceivable how these conditions could be thus mistaken. Nevertheless, that such errors occasionally occur is but too certain, as I have seen proved in an instance where an inverted uterus, being taken for polypus, was removed by a gynæcologist of some eminence. The accompanying diagrams, for which I am indebted to one of our present clinical residents, Dr. F. Golding, may therefore help to prevent you from falling into so serious a blunder.

From a polypus, or pedunculated uterine tumor, protruding into or extruding from the vagina, an inverted uterus can be distinguished by the history of the case, by the absence of the fundus uteri in its normal position, by the impossibility of passing the finger or uterine sound beyond the cul-de-sac formed by the inverted cervix, and by the corrugated, flocculent, sensitive, hemorrhagic vascular surface of the out-turned

endometrium, as contrasted with the usually pyriform shape, non-vascular aspect, and insensibility to pressure of a uterine polypus, above which on careful digital examination may be felt the os, through which the sound may be introduced into the uterine cavity. Of all the means of diagnosis, however, between uterine inversion, on the one hand, and prolapse, polypus, or other tumors with which it may possibly be confounded, on the other, the most reliable is the introduction of a curved male sound or metallic catheter into the bladder, the surgeon at the same time passing his left index well up into the rec-



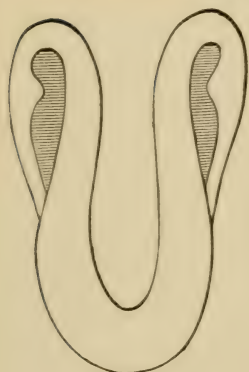
Method of diagnosing inversion of the uterus (R. Barnes).

tum, when, if the case should be one of inversion, on turning the point of the sound backward it can be felt, through the intervening structures, by the finger in the rectum, the absence of the body of the uterus from its normal position being thus demonstrated.

In view, however, of the frequency with which cases of uterine prolapse, polypi, and inversion have been confounded in actual practice, despite the diagnostic distinctions between these three conditions to which I have just referred, and which, as the matter

is one of great importance, are again here clearly illustrated in the subjoined diagrams, I reiterate the rules formulated by Dr. Barnes with regard to the treatment of all cases in which any

FIG. 193.



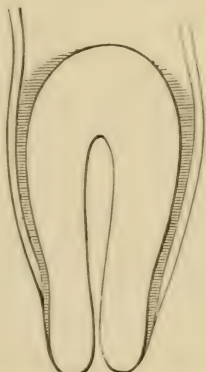
Inversion.

FIG. 194.



Polypus.

FIG. 195.



Prolapse. (F. Golding, del.)

such mistake could possibly be made. (1) The sensitiveness of the inverted uterus, as he observes, "is not to be trusted as a diagnostic sign. In many cases no pain is complained of when the body of the uterus is handled. But the case is very different when compression is applied to the neck of the tumor. The round ligaments and the Fallopian tubes are compressed, and agony, inducing prostration, is the immediate result. This is truly diagnostic, and it may be turned to account without the dangerous test of the ligature by squeezing the neck between the finger and thumb. (2) Before noosing a presumed polypus, if the sound cannot be passed two inches or more beyond the os uteri, where it embraces the neck of the tumor, the sound should be passed into the bladder, and its point felt for by a finger in the rectum above the tumor. (3) Never induce anæsthesia for the removal of a polypus. If the ligature be tightened round a polypus it gives no pain, but if it be tightened round the uterus the pain produced gives warning and the opportunity of retrieving error at the last moment."

Treatment.—Cases of the spontaneous reduction of an inverted uterus, even after many years' displacement, are related by several

writers ; but these instances are so exceedingly rare that they are of no weight in forming the prognosis or in disproving the imperative necessity for at once endeavoring to replace the womb in its natural situation as soon as the abnormality is recognized. This may be attempted either by gradual and persistent pressure, or by the more immediate and forcible method of taxis.

Gradual pressure is the means which in the great majority of cases of this kind would commend itself to my judgment ; for, as Dr. Aveling pointed out, in applying force for the treatment of inversion it should never be forgotten that, although Nature is a willing servant, she must have time to do her work. Steady sustained pressure, with short intervals of rest, is by far the best way of employing taxis. Sudden and violent efforts at reposition only end in causing laceration and disappointment. The gradual plan of treatment of chronic inversion was first successfully carried out by Dr. Tyler Smith, of London, by pressure on the uterine tumor by means of india-rubber air-ball pessaries, aided by gentle taxis for a few minutes at a time and repeated twice daily. "After more than a week of these proceedings" in one case, says Dr. Tyler Smith, "the patient felt a good deal of pain through the whole of one night ; and in the morning, when an examination was made, it was discovered that complete reinversion had taken place. The recumbent position was maintained for a few days. A small air-pessary was afterwards worn, and subsequently the patient again became pregnant."

This method has, however, been superseded by the various improved appliances which have been suggested for the same purpose, such as Aveling's sigmoid uterine repositor, by the use of which the author successfully treated eleven cases of chronic inversion, the average time thus required for reposition being only forty hours. "I think," says Aveling, "after considering these facts, you will come to the conclusion that every case of chronic inversion of the uterus can be cured by sustained elastic pressure exercised in the right direction ; and I hope you will not think me too sanguine when I state my belief that the mutilation of a woman by removing her uterus will no longer be necessary in consequence of the impossibility of replacing this important organ when inverted." The method by which these satisfactory results were accomplished by Dr. Aveling may be quoted from an abstract

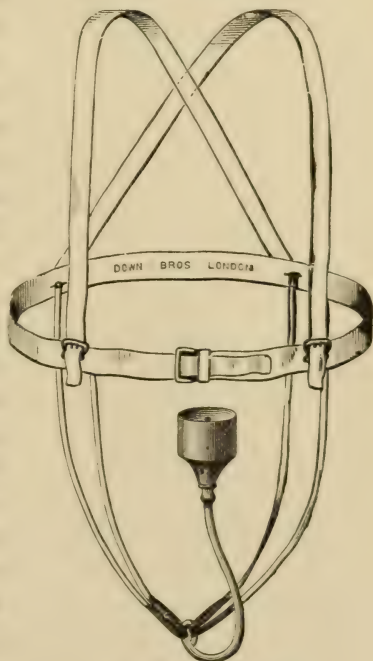
of his paper in the second volume of the *British Gynaecological Journal*.

“*Directions for Using the Sigmoid Repositor.*—Having diagnosed inversion, determine by touch the size of the fundus, and select a cup of proportionate size. It should be in diameter slightly less than that of the fundus. Next apply the belt round the waist, and then the braces over the shoulders, and fasten them by safety-pins to the belt. This should be done in such a way as to leave room to pass the tapes, to which the rings are attached, between the pin of the safety-pin and the belt. Now the cup of the

repositor should be applied to the fundus uteri, and held firmly in position by an assistant while the rings are adjusted, two being taken in front and two behind. The ends of the tapes should next be passed between the safety-pins and the belt, parts of the tapes drawn through, and a knot made at the ends to prevent them slipping back. Tension may be lastly exerted by drawing the tapes up through the pins and fastening them at any point by tying a loop. This loop can be easily pulled out and re-tied, should more or less tension be required. Care must be taken to have the tension equally distributed; for, if the front bands be tighter than the back, there arises the fear of the cup being slipped back off the fundus; and

the opposite may occur if the posterior bands be tighter than the front. The india-rubber bands passing to the front should be carefully laid outside the labia and packed with cotton-wool. If the patient be restless or complain of pain, morphine may be administered. She should be carefully watched and the urine drawn by catheter when necessary. It is difficult to lay down

FIG. 196.



Aveling's uterine repositior.

any rule for tightening and loosening the tapes. This will be determined by the practitioner, who must judge by the existing tension, and the tolerance of it by the patient.

"Reduction takes place by the cervical method. Pressing on the fundus causes counter vaginal traction on the cervix, making it unroll gradually until the inner os is reached, where a little delay is caused by its being less dilatable. When this point is passed, the body of the uterus soon opens, and admits the cup. The last step must take place rather suddenly, for all patients say they feel that something has 'given way,' and comparative comfort is the result.

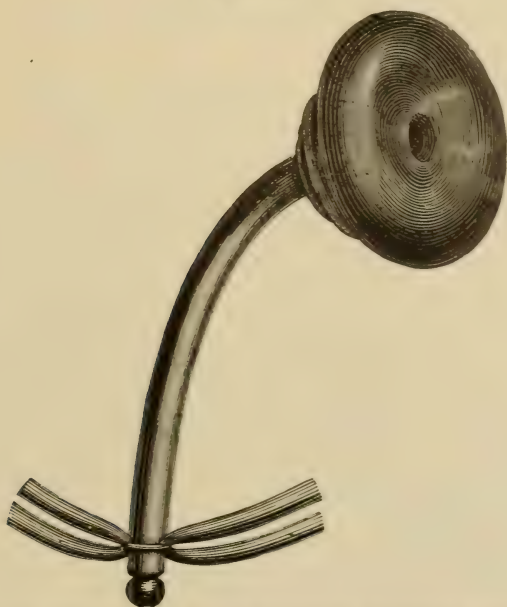
"When the inversion has been reduced, the sooner the cup is withdrawn the better, for the cervix immediately begins to close round the metal stem, and the cup becomes firmly grasped in the uterine cavity. If it has been long retained an anæsthetic will assist. When the cup has been removed, pass a thick sound into the uterus, and, by pressing the point of it forward, the rounded fundus will be felt through the abdominal walls. Being satisfied that complete re-inversion has taken place, syringe out the uterine cavity with iodine water at 120° F., which will cleanse its surface and make the whole organ contract."

Another excellent appliance for the same purpose is Dr. R. Barnes's "elastic pessary" (Fig. 197). This is formed on the model of the stem pessary. The stem, suitably curved, is surmounted by a hollowed cap of caoutchouc, upon which the inverted fundus of the uterus rests. To the lower end of the stem are attached strong elastic tubular bands, two of which are brought up in front and two behind, to be made fast to a belt round the abdomen. By bracing up the posterior bands, a forward direction is given to the elastic cap, so that the uterus is pressed up steadily upon the fundus of the vagina, constantly tending to distend this part, and thus to pull open the cervix uteri. It is more convenient than bags, because by loosening the anterior straps ease can be given to empty the bladder, without removing the instrument; and the straps permit of ready and accurate graduation and direction of pressure, due elasticity being preserved.

Immediate Reduction.—In some exceptional instances, however, it has been found feasible, as was demonstrated by Professor White, of Buffalo, New York, to effect replacement, even in cases

of inversion of many years' standing, within less than an hour, by forcible taxis under chloroform. I have used his method successfully, as far at least as the immediate reduction of the displacement was concerned, in one instance of this kind in which

FIG. 197.



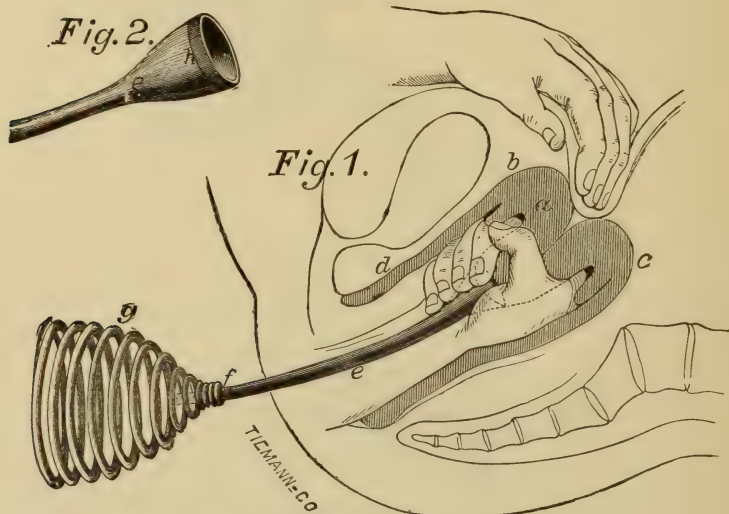
Elastic pessary for the reduction of chronic inversion of the uterus (half-size) (Barnes).

other methods had been ineffectually tried at intervals for four years before her admission into hospital. The ultimate result in that instance, however, was not such as would induce me to repeat the operation in any case in which it could possibly be avoided. But, as you may meet with some more favorable case for its performance than I have done, the following details of this procedure are here given.

White's Method.—The patient having been put under ether and lying in either the lithotomy or left lateral position, her bladder and rectum being, of course, previously emptied, the operator places his left hand above the pubes and presses down the place vacated by the inverted fundus until he can reach and make steady counter-pressure on or over the cervical ring. At the same time,

with the other hand in the vagina, he grasps and steadily compresses the displaced organ so as to reduce its vascularity and tumefaction as much as possible, all the while gently and gradually but firmly pushing it back through the cervical ring, replacing first, if possible, the part that came last, and then, by well-directed pressure with a specially-constructed instrument,—such as White's spiral-spring repositor, which rests on the operator's sternum,

FIG. 198.



White's spiral-spring repositor.

leaving his hands free for the necessary conjoint external and vaginal manipulation,—the inverted organ is pressed upward through the os until its complete recession is gradually and cautiously accomplished. This procedure may require to be repeated on several occasions before its object is attained, and in its employment any sudden force or violence whatever must be most carefully avoided. Otherwise, as has occurred in more than one instance, the patient may die on the operating-table or shortly after leaving it from the excessive force thus misapplied. In these cases, therefore, as in all others, let your operations be guided by the old aphorism *arte non vi*.

It is hardly necessary to remind you, moreover, that, in at-

tempting to press the inverted organ back through the cervical ring, the pressure should be in the direction of the pelvic axes. With this view care must be taken to press the uterus at first upward and backward into the hollow of the sacrum, and then upward and forward through the brim, in such a direction laterally as to avoid the promontory of the sacrum, which may prove an important obstacle to the reduction if not avoided by this lateral movement.

Tate's Operation.—In some cases the replacement of an inverted uterus may be facilitated by the bimanual method of reposition, by the fingers in the rectum and bladder, which was suggested and successfully accomplished by Dr. J. H. Tate, of Cincinnati, in the manner shown in the subjoined illustration.

FIG. 199.

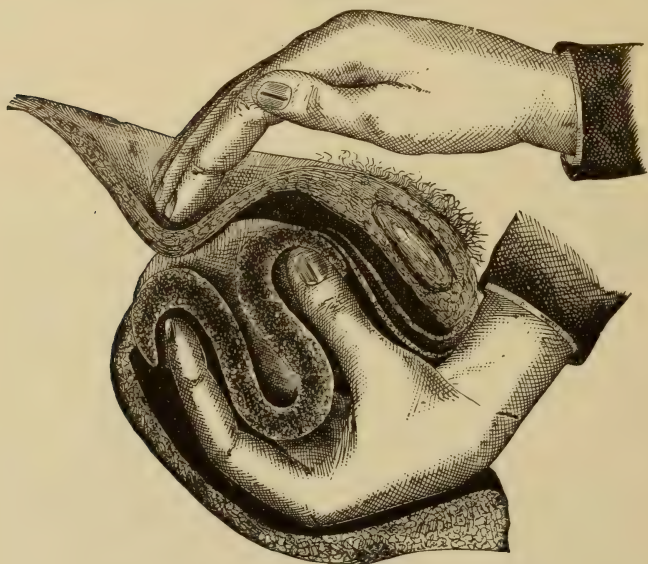


Tate's method of making counter-pressure by fingers in the bladder and rectum.

Emmet's Method.—The technique of this operation, by which the inverted uterus has in several instances been successfully replaced, may be best conveyed by quoting the account given by Dr. Emmet of its employment in one of those cases. "My hand,"

he says, "was passed into the vagina, and, with the fingers and thumb encircling the portion of the body close to the seat of inversion, the fundus was allowed to rest in the palm of the hand. This portion of the body was firmly grasped and pushed upward, and the fingers were then immediately separated to their utmost; at the same time the other hand was employed over the abdomen in the attempt to roll out the parts forming the ring, by sliding the abdominal parietes over its edge. This manœuvre was repeated and continued. At length, as the diameter of the uterine cervix and os was increased by lateral dilatation with the outspread fingers, the long diameter of the body of the uterus be-

FIG. 200.



Emmet's method of reducing inverted uterus (Emmet).

came shortened, and the degree of inversion proportionately lessened. After the body had advanced well within the cervix, steady upward pressure upon the fundus was applied by the tips of all the fingers brought together."¹

Barnes's operation—which, as the author observes, should be confined to cases of inversion in which gradual pressure, or Tyler

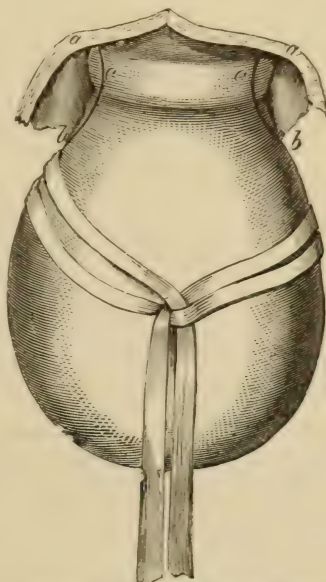
¹ Emmet, op. cit., p. 418.

Smith's method, has failed—was thus successfully carried out by Dr. Barnes in a case of that kind. "I drew down," he says, "the tumor to the vulva by putting a sling-noose of tape around it and putting the neck on the stretch. I then made three incisions in the neck about a third of an inch deep, one on each side and one behind, in a longitudinal direction,—that is, across the fibres of the cervical sphincter. Then, compressing the uterus with my left hand, and supporting the os uteri by the fingers of the right hand through the abdominal wall, I found the cervix yield, and the body went through into its place. The cervix yielded by laceration extending from the incisions, and I very much feared at the time that serious, if not fatal, mischief had been done. No material inconvenience, however, followed; an examination three weeks afterwards showed the

cervix and uterus to be in their proper places. Notwithstanding the successful issue, I believe that the method should only be resorted to after a full trial of Tyler Smith's plan, and then with great caution. I should recommend that only two incisions be made, one on each side of the os, and these of moderate depth."¹

In some instances, however, it may be found impossible to effect reposition of a chronically inverted uterus by the manner just described, and in such cases, if the urgency of the accompanying symptoms be so great as to imperil the patient's life or to render her existence miserable, it may become necessary to resort either to its attempted replacement by laparotomy or to the removal of the inverted organ.

FIG. 201.



Barnes's operation, inverted uterus drawn down by tape-noose; *a, b, c*, showing line of incision (Barnes).

¹ Clinical History of Diseases of Women, by Robert Barnes, M.D., 3d ed., p. 742.

Thomas's Method.—In the present state of abdominal surgery the former operation, which if successful leaves the patient's uterine functions intact, has been shorn of much of the terrors which surrounded it when originally proposed and performed by Dr. Thomas, of New York. To him is due the credit of having first thus employed intra-peritoneal surgery for the purpose of expanding the constricted cervical ring, from above downward, by a strong expanding forceps, or dilator of glove-stretcher form, so as to afford room for the return by taxis of the re-inverted uterus to its normal position.

Extirpation of the Inverted Uterus.—The most facile and in some instances the only method available for the radical treatment of otherwise irremediable cases of inversion is the removal of the displaced organ. This operation, which I need hardly say should be regarded as the *dernier ressort* of the surgeon, was advocated in such cases by the late Dr. McClintock, by whom I have seen it carried out, and who in three instances performed it successfully by first strangulating the extruded uterus at the cervix by a ligature, which was allowed to remain from twenty-four to forty-eight hours, when the removal of the mass below was completed by the *écraseur* or knife. It is needless to say that this procedure has been greatly modified and made far more rapid as well as less painful than it was in McClintock's day. But at the same time I am sorry to add that Schroeder's and other more recent statistics afford no proof that its general results in the treatment of inversion have been in any way improved since then.

In the only instance in which I have myself found the amputation of an inverted uterus necessitated, the patient was a comparatively young woman (under forty years of age), who was thoroughly worn out and exhausted by hemorrhage and pain from inversion of two years' duration, which had resisted every means tried for its replacement. In that case, the removal of the uterus having been suggested and consented to, the cervix was first transfixed by a strong needle armed with a stout double silver wire, by traction on which the entire uterus was drawn as far down as possible. The cervical portion of the tumor was now encircled by a whipcord ligature, and below this the *écraseur* was applied and the separation of the tumor very slowly effected.

During this excision the shock appeared so intense that it was necessary to suspend the anæsthetic and administer ether hypodermically before the operation could be resumed. Notwithstanding the precautions taken, the resulting hemorrhage was profuse, and was with difficulty controlled. The edges of the cervical stump were secured with fine wire sutures, and the vagina was washed out with hot water and then packed with iodoform gauze. Finally a large compress securely applied above the hypogastrium was forced down as far as possible. This patient ultimately recovered from the shock of the operation as well as the loss of blood, but her life for some time afterwards certainly hung in the balance. I may add that the danger she thus escaped exemplifies the risks generally attendant on extirpation of an inverted uterus, and particularly when, as in that case, the operation is performed on a woman within the period of utero-ovarian functional activity. I have, therefore, referred to it with the view of impressing on your minds the fact that such operations should never be resorted to until their absolute necessity has been demonstrated by the urgency of symptoms otherwise unrelievable.

PART IV.

DISEASES OF THE UTERINE APPENDAGES.

LECTURE XXVIII.

DISEASES OF THE FALLOPIAN TUBES.

GENTLEMEN,—The accurate differential diagnosis and successful or radical treatment of Fallopian tube diseases have only become generally obtainable within a recent period ; and for that advance we are largely indebted to the teaching and practice of Mr. Lawson Tait and some other leaders of the modern school of abdominal surgery. Nevertheless, it may not be superfluous to remind you of the somewhat ignored fact that the disorders of the uterine appendages were by no means unfamiliar to many of the older writers, by whom, and more especially by Astruc,¹ of Paris, in 1761, and by Kruger,² of Göttingen, in 1782, their pathology was fully discussed ; whilst by others very remarkable instances of what we now term pyo-salpinx and hydro-salpinx, as well as other tubal troubles, have been narrated. Thus, Portal³ quotes, *inter alia*, a case from De Haen of “abscess in the left Fallopian tube which contained eighteen pints of pus ;” and another from Munieks of “an enormous Fallopian cystic tumor, the contents of which were estimated at upward of a hundred gallons” ! He also cites from Harden the instance of “a woman in one of whose Fallopian tubes was found encysted a hundred and forty pounds of an aqueous fluid” ! These or other cases of Fallopian disease were also referred to by Bailey,⁴ Hooper,⁵ and other writers of the

¹ Astruc, *Traité des Maladies des Femmes*, Paris, 1761.

² Kruger, *Pathologia Ovariorum Muliebrum*, Göttingen, 1782.

³ Portal, *Cours d'Anatomie Médicale*, tome v. p. 540.

⁴ Bailey, *Diseases of the Uterus*, etc., p. 504.

⁵ Hooper, *Morbid Anatomy of the Human Uterus*, 1834, p. 3.

first two decades of this century, and above all, a little later, by Dr. Davis,¹ by whom the symptoms and pathology of diseases of the oviducts as then understood were distinctly described. From that time may be dated the general recognition of the fact that the Fallopian tubes, intimately connected as they are structurally and functionally with the uterus, must therefore be liable to inflammatory diseases similar to those which affect that organ, however modified these may be in their symptoms and consequences by the special organization and relations of the oviducts.

The diseases which may be thus transmitted to the Fallopian tube, not only from its uterine orifice but also through its free peritoneal extremity, or which may originate within its structure, are, first, inflammation, or salpingitis, and its consequences,—viz., pyo- and hydro-salpinx,—of which probably the most common causes are gonorrhœal infection and puerperal sepsis. The oviduct may, moreover, be the seat of encysted, fibro-muscular, and malignant tumors.

Acute Salpingitis.—Acute inflammation of the Fallopian tubes may be here very briefly disposed of, inasmuch as salpingitis is seldom brought under gynæcological notice until the disease has reached the chronic stage. It is most frequently observed attending or following the puerperal state as a complication or consequence of septicæmia, when its occurrence is indicated by deep-seated, throbbing pain, extending from the iliac region into the groins and thighs, together with local tumefaction and tenderness, recognizable by conjoint recto-abdominal or bimanual examination over the course of the broad ligaments, in which the tortuous outlines of the hyperæmic and enlarged oviducts may be thus detected. The most common result of acute salpingitis is the chronic form of the disease. It may also, however, terminate in resolution or cure, as well as in the occlusion or obliteration of the ducts in any part of their course by the cohesion of their walls from plastic inflammatory exudations.

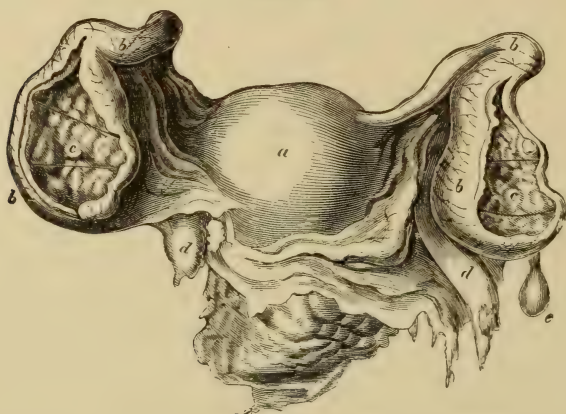
As to the treatment of such cases, I know of nothing very reliable that can be recommended beyond allaying pain by opiates and administering quinine in combination with iodide of potassium or bichloride of mercury. Hot-water vaginal and rectal irrigation

¹ Davis, *Obstetric Medicine and Diseases of the Womb*, 1835, vol. ii. p. 760.

and external stuping are obviously indicated, and are most likely to prove successful in acute catarrhal salpingitis, whilst it is difficult to see what possible benefit can be produced by counter-irritation by blisters or strong mercurial ointment over the inguinal region, which, though still occasionally employed in such cases, are more likely to add to the discomfort of the patient than to cure the disease.

Chronic Salpingitis.—Chronic inflammation may affect either one or both tubes; more generally both are implicated, although in different degrees. Its causes may be either gonorrhœal, puerperal, or catarrhal, whilst occasionally it may arise from local causes, such as tubercular and cancerous deposits in the tubes. The frequent origin of tubal inflammation from cervical lacer-

FIG. 202.



INFLAMMATION OF FALLOPIAN TUBES (by Hooper, after Barnes).—
a, uterus; b, tubes; c, sacculated dilations laid open; d, round ligaments; e, a terminal vesicle.

ation has been pointed out by Dr. Robert Bell, of Glasgow, who observes that in such cases the salpingitis will probably be found on the same side as the cervical lesion. Moreover, as might be expected, salpingitis and its consequences are more commonly met with during the earlier period of marital life, and in those in whom the utero-ovarian or sexual functions have been most exercised, than in patients more advanced in years and of non-erotic temperament. Thus, Dr. Bland Sutton, who in his pathological investigations has had an extensive opportunity of

examining the bodies of a large number of women of ill-fame, in many of these instances discovered evidences of hydro- or pyo-salpinx, or in some cases found one or both Fallopian tubes represented by an impervious cord and the ovaries atrophied and unrecognizable. This induces him to believe that the frequency of tubal disease between the ages of twenty and thirty-five years and its relative rarity after the fortieth year are to be accounted for by the fact that, if the individual survive the dangers incident to an inflamed and distended tube, the diseased parts atrophy.

Symptoms of Chronic Salpingitis.—The general symptoms of chronic salpingitis, before the disease has eventuated in pyo- or hydro-salpinx, are scarcely distinguishable from those of the generally coexisting oöphoritis, and, later on, its effects and evidences are symptomatically almost identical with those of pelvic cellulitis or perimetritis, and in former days were commonly confounded with that disease. Of these symptoms of chronic tubal disease the most important are the recurrence of otherwise unaccounted for attacks of menorrhagia attended with dysmenorrhœa, or impeded through protracted or excessive menstruation. In such cases the patient further complains of a characteristic deep-seated, intra-pelvic pain which—in some instances from the first, and in almost all cases during the progress of the disease—sooner or later becomes acute or lancinating, shooting out into the sacral and inguinal regions, and extending down the thighs. At the same time may also be noted evidences of constitutional febrile disturbance and pyogenic rigors, and in some cases intra-menstrual hemorrhages or aqueous discharges from the uterus, together with local tumefaction and tenderness in the course of the oviduct discoverable on examination per rectum.

Pathology.—The pathology of pyo- and hydro-salpinx has been most fully investigated by Dr. Bland Sutton in his recent work on “The Surgical Diseases of the Ovaries and Fallopian Tubes,” and in his previous articles on the same questions in *The Lancet*; I therefore think that I cannot do better in this connection than place before you the following abstract of some of his observations on this subject.

Pyo-Salpinx.—In severe cases of salpingitis after occlusion of the abdominal ostium, accompanied, as is usual, with stricture of the uterine end of the tube, “the pus,” says Bland Sutton, “is

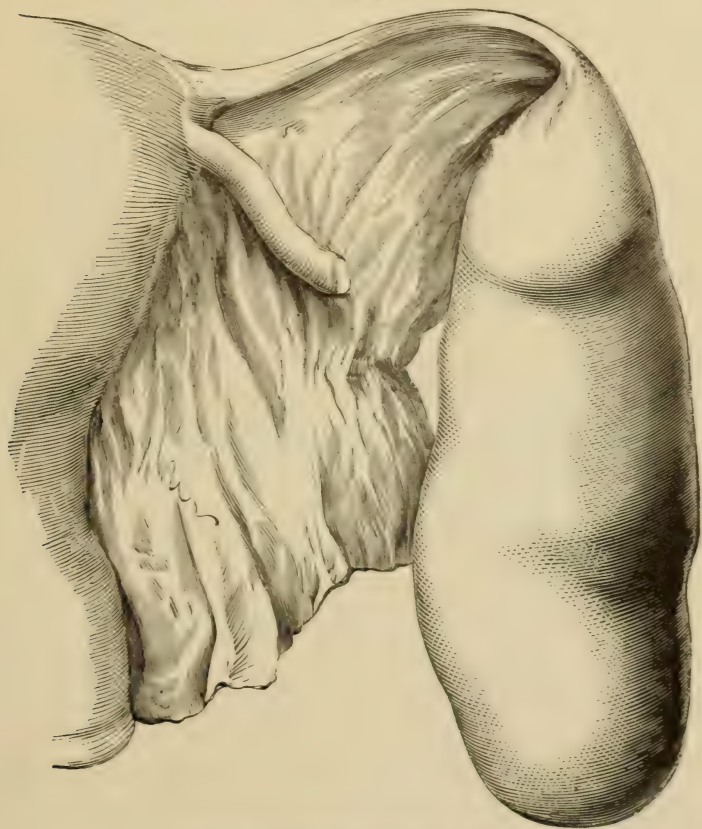
as securely locked up in the tube as it would be in a deep-seated abscess, and it follows the course of an abscess. The walls of the tube, stretched by the accumulating pus, gradually thin, and the inflamed tube becomes adherent to surrounding structures,—ovary, uterus, rectum, intestine, or broad ligament. The wall of the tube continues to thin until, on some slight exertion, it bursts. If the pus be discharged into the peritoneal cavity, it establishes rapidly fatal infective peritonitis. Right pyo-salpinx is very prone to open into the rectum. When a pyo-salpinx lies in contact with bowel, the pus it contains becomes abominably fetid, due to osmosis of the intestinal gases. The relation of pyo-salpinx to the rectum must be studied in connection with tubo-ovarian abscess. The first effect of salpingitis upon the ovary is to cause thickening of its capsule, and if lymph is effused upon its surface this may organize and extensive perimetritic adhesions result. The effects of this thickening of the capsule are twofold. At first it prevents the rupture of ripe ovarian follicles, and the tension gives rise to considerable disturbance and causes pain; and as the enlarged follicles cannot discharge their contents, it naturally follows that on section an ovary which has long been the seat of peri-oöphoritis will be found largely converted into cystic spaces, and two or more may become confluent and form a cyst the size of a walnut. As such a cyst enlarges and makes its way by absorption to the surface, it not infrequently comes into relation with and adheres to the dilated pus-containing ampulla of the corresponding tube, which has been brought in contact with it through the restraining influence of the tubo-ovarian ligament. Not infrequently absorption takes place, and the dilated ampulla of the tube will communicate with an enlarged follicle or cyst in the ovary, and thus give rise to a tubo-ovarian abscess, which may be discharged by way of the rectum at irregular intervals.”¹

Symptoms.—When the infective qualities of pus are not great a pyo-salpinx gives rise to few symptoms. It is this form of pyo-salpinx that, becoming gradually dilated with fluid, is eventually converted into a hydro-salpinx, which, as a rule, according to

¹ *Vide* J. Bland Sutton on “Pyo- and Hydro-Salpinx” in *Lancet*, December 6, 1890; also the same author on “Surgical Diseases of the Ovaries and Fallopian Tubes,” London, 1891.

Sutton, should be regarded as merely a late stage of pyo-salpinx. Many milder attacks, however, may be described as "catarrh of the tube," and like a nasal or gastric catarrh subside and leave no trace. If the inflammation is sufficiently intense to seal the

FIG. 203.



Dropsy of Fallopian tube (after R. Barnes).

ostium, permanent damage results, and if, as is so commonly the case, both tubes are affected, they remain throughout life functionless, and often a source of grave danger. In cases of salpingitis sufficiently severe to occlude the ostium the tube is, after the subsidence of the inflammation, in the condition of a blocked ureter: there is no escape for the fluid which is excreted by the glands in its walls, or for the fluid which passively exudes into its cavity.

It consequently forms a cyst by retention. The fluid is either colorless or greenish, owing to the presence of cholesterin.

If the distention is great, as Dr. Horne, of Dublin, observes, "the sausage-like elongated, fluctuating, movable tumor may be felt in the retro-uterine space a little to one side; this is more easily made out with the patient lying on her back, the knees well bent, and of necessity the bi-manual examination. The tumor can be separated from the uterus."¹ There is another very constant symptom which is strongly insisted on by Dr. Horne as of considerable importance in the diagnosis of these cases, namely, the sudden gushes of what patients describe as "hot water," occurring after the menstrual periods. In some instances the fluid, as before stated, may escape at irregular intervals through the uterus, constituting what has been described as "hydrops tubæ profluosus," and which is accounted for by Dr. Sutton as resulting from the occurrence of Fallopian fistula in such cases. In other instances, again, the exudation may take place through the abdominal ostium of the tube, possibly giving rise to fatal peritonitis, or in non-septic cases to "hydro-peritoneum," which has been defined by Mr. Alban Doran as a collection of fluid in the peritoneal cavity that cannot be referred to any tangible organic disease, except chronic salpingitis of a mild type with an unobstructed tube.

Before referring to the treatment of these conditions, I shall in the first place briefly recapitulate the notes taken by my former clinical resident, Dr. G. Whyte, of a case of chronic salpingitis, which may serve to exemplify the ordinary course and results of that disease :

CASE.—A. O'N., aged twenty-four, unmarried, an anæmic-looking draper's assistant, admitted October 17, suffering from menorrhagia for two years previously. The changes, she stated, lasted from six to eight days, and were accompanied by much suffering. She also complained of almost continual pain in left groin and backache, together with a bearing-down sensation.

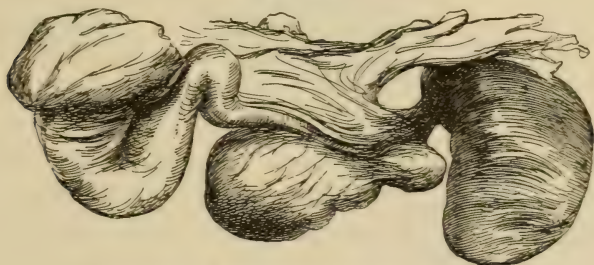
On vaginal examination the position of the uterus proved normal, and nothing beyond some slight endo-cervicitis was

¹ Dr. Horne, in Transactions Royal Academy of Medicine, Ireland, vol. ii. p. 270.

apparent except an unusual flattening of the roof of the vaginal posterior cul-de-sac. An examination by the rectum was made, on which distinct fulness and fluctuation was discovered in Fallopian tube, which was much enlarged. The aspirator was employed, and a long needle was passed through vaginal cul-de-sac and guided by finger *in situ* to the most prominent part of tumefaction, at which it was introduced, and on turning the tap about six ounces of turbid puro-serous fluid was evacuated. No subsequent dressing was employed; the vagina and uterus both daily irrigated with hot water. She was put on iodide of potassium and bark mixture, rapidly convalesced, and was discharged on December 9.

For the accompanying sketch, Fig. 204, I am indebted to Dr. Duke, who has given a view of the condition of the uterine ap-

FIG. 204.



Pyo-salpinx, sketched from specimen (A. Duke).

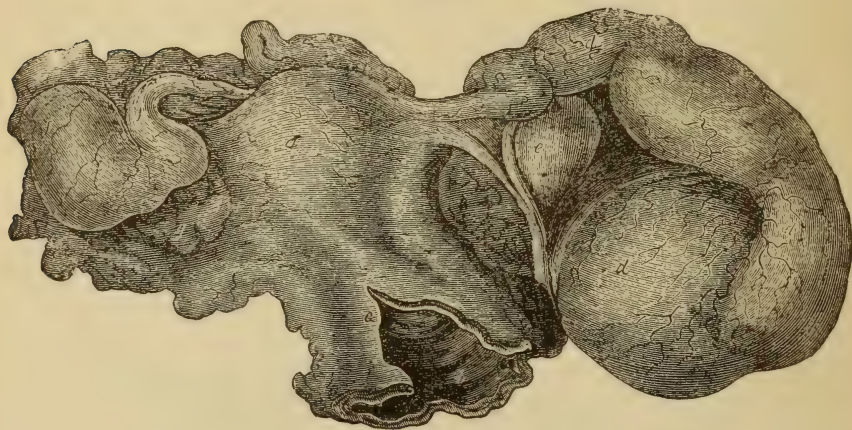
pendages in a case of pyo-salpinx such as that in which I recently had an opportunity of assisting my colleague Mr. Coppinger in the removal of the diseased adnexa from a patient who is now convalescent after the operation.

In Fig. 205 are delineated the disorganized appendages in a case of enormous distention of the Fallopian tube by hydro-salpinx.

Treatment.—In the treatment of chronic salpingitis and the resulting pyo- or hydro-salpinx, it appears to be not unfrequently lost sight of that in these, as in all other cases, the gynæcologist should set before him not only the removal of disease, but also the restoration of the functional and structural integrity of the affected organ, as far as these objects can possibly be combined and accomplished; and that only where the latter is impracticable should he be content with the former. With this view several

methods of dealing with the cases now under consideration have been suggested. First, removal of the contents, whether purulent or serous, of the distended tube by aspiration, as recommended by Dr. Routh, as well as some years ago by myself in several

FIG. 205.



Hydro-salpinx (Hooper).

papers read before meetings of the Royal Academy of Medicine in Ireland, the Brighton meeting of the British Medical Association, and at the Washington meeting of the International Medical Congress, in which I also discussed the expediency and showed the possibility of catheterization of the Fallopian tubes in certain instances. Secondly, free incision per vaginam, and subsequent washing out of the emptied tubes, as advocated by Dr. Sinclair. Thirdly, curetting the endometrium around the uterine ostium of the tube, and Emmet's operation. Fourthly, employment of electricity by the method of Apostoli. Fifthly, what may be termed conservative laparotomy,—*i.e.*, abdominal section with the view either of aspiration of the distended ducts, or, as advocated by Mr. Alban Doran in some instances, for the purpose of breaking down adhesions and "freeing the diseased appendages." Sixthly, may be here mentioned the resection of the tube by salpingostomy, or Skutsch's operation. Seventhly and lastly, in this connection, is massage as employed by Brandt in such cases.

I shall not here waste time by referring *in extenso* to these procedures, save those that I have myself proved the practical utility

of. This is not the case with regard to salpingostomy, concerning which, as well as other "fancy operations" that may more safely be demonstrated on a lecturer's diagram-board than in a patient's body, I would re-echo Dr. Goodell's criticism: "The diseased parts cannot be handled in abdominal section without great risk. The tube is often tensely distended, and adhesions to neighboring structures are usually intimate. Hence the tube may readily be ruptured, intestines torn, and circumscribed collections of pus diffused." As to massage, even if harmless, it would be objectionable for the general reasons which I have mentioned when referring to this subject in a previous lecture. But in cases such as those under consideration, even that negative merit can hardly, I think, be attached to a procedure like that by which, according to the writer just cited, one of its advocates—viz., Brandt—is credited with venturing to attempt the emptying of a distended tube into the uterus by "rolling it gently between the fingers of both hands," a manœuvre which, it is admitted, often causes "an escape of secretion into the peritoneal cavity, which readily gives rise to symptoms of peritonitis!"

Conservative Treatment.—Turning from these fond fancies of transcendental scientists or enthusiastic faddists to the sober realities of practical gynæcology, we may now consider the rational treatment of pyo- and hydro-salpinx, in regard to which there appears to me no reason to depart from the traditionally recognized first principles of surgery, by an indiscriminate resort, in the first instance at least, to such heroic operative measures as the complete extirpation of the uterine appendages. If the mammary gland, for example, becomes the seat of a purulent collection, or if, as Sir Spencer Wells suggests, the tunica vaginalis testis is the location of a hydrocele, would it not be more advisable to open the abscess or to tap the hydrocele than to amputate the breast or to remove the affected testicle? And must we necessarily adopt an entirely different course as a matter of general practice in dealing with analogous conditions in other no less important organs?

Acting on these principles, therefore, for several years past I have, in the first instance at least, treated a considerable number of cases of pyo- and hydro-salpinx by aspiration and other conservative measures. The successful results thus obtainable in many, though not by any means in all, instances of this kind have

been proved in my wards in the Mater Misericordiæ Hospital, where the majority of cases of this kind were treated by that method long before its advantages were elsewhere recognized. This treatment, even if not as certain in its radical curative results as salpingotomy, is certainly quite as successful in the class of cases to which its employment should be restricted, and at least contrasts favorably in facility of performance and safety from danger with the latter operation, which in other cases or after its failure may become no less expedient. Hence I shall venture for a moment to dwell on the details of the less serious method, which, as I believe, will in not a few instances be found to afford satisfactory results whenever tubal collections are accessible per vaginam. In the first place, to permit the necessary manipulation, the patient should be put under some anæsthetic and placed in the ordinary left lateral gynæcological position. Then the operator introduces the index and first fingers of his left hand through the sphincter ani upward and forward along the anterior rectal surface so as to map out clearly the outlines of the posterior uterine wall, the fundus being pressed down by his assistant's hand over the hypogastrium. In this way the tubes and ovaries can be readily palpated, and if there be any inflammatory or cystic enlargement of the former it may be distinctly recognized as a tortuous, elongated, or sausage-shaped or rounded fluctuating tumor, extending, as Dr. William Duncan says, "from the side of the uterus outwards to the broad ligament and backwards into Douglas's fossa." Having thus ascertained the position of the pyo- or hydro-salpinx, the next step is carefully to introduce per vaginam on the point of the right index finger a long fine needle affixed to the aspirator up to the roof of the posterior vaginal cul-de-sac, through which it is to be passed into the retro-vaginal fossa, and thence guided by the operator's left index from the rectum up to the most prominent presenting part of the tubal swelling, into which it is to be plunged. The tap of the aspirator is then to be turned, so as to give exit to the contents of the dilated tube, the expulsion of which may be assisted by the steady pressure of the assistant's hand from about the hypogastrium down into the pelvic cavity, and continued until the tube is completely evacuated. After this the vagina should be rendered aseptic by insufflation with iodo-

form, and then no further local treatment beyond hot water irrigation will generally be required, unless the tube should, as sometimes happens, again fill, though probably to a lesser extent, when the same procedure may be again and again, if necessary, repeated until the oviduct has become reduced to its normal size.

Curetting Fundal Orifice of Tubes ; Treatment by Electricity.—Apart from malignant and other degenerative changes, the most common immediate cause of cystic accumulations in cases of chronic salpingitis is mechanical obstruction of the uterine orifice of the oviduct, due either to chronic follicular endometritis, flexion, or, in some instances, supra-involution of the uterus. Under such circumstances the tubal obstruction is most likely to be relieved by dilatation followed by curetting of the diseased proliferating endometrium in the first instance, or by the rectification of the flexion in the second, and by faradization in the last-named cases. The faradic current has, moreover, not only in these but also in other forms of chronic salpingo-oöphoritis, been in some instances successfully employed by Dr. Apostoli, of Paris, who generally employs in such cases the faradic current of tension applied in moderate doses and for only a few minutes at a time, for which he claims the most remarkable curative results in such cases. Another recent authority on this subject, Dr. Milne Edwards, of Edinburgh, does not believe that the galvanic current is suited to cases where there is definite organic change in the ovaries, but considers that here faradism may possibly be of service.

Catheterization of Fallopian Tubes.—This method of relieving tubal obstructions and accumulations was originally suggested by Dr. Tyler Smith, who designed for that purpose a special catheter about the size of the ordinary uterine sound, with the addition of a short lateral curve at the point, turning to the right or left, according as it is for the right or left Fallopian tube. The catheter is to be passed through the cervix to the top of the uterine cavity, and then the orifice at its curved extremity will correspond as nearly as possible with the orifice of the Fallopian tube. Having proceeded thus far, a very fine whalebone probe is to be passed through the catheter into the Fallopian tube, the distance to be ascertained by the marks upon the extremities of the probe. Tyler Smith believed that such a procedure presents no great difficulty, and never witnessed any ill effects from the operation.

Its feasibility has, however, been questioned on anatomical grounds by the great majority of subsequent authorities. In this connection, therefore, we may briefly refer to the normal condition and position of the Fallopian ducts, each of which runs sinuously from the upper angle of the uterus out towards the side of the pelvis, enclosed in the upper free margin of the broad ligament. The course of the tube is straight for about an inch, then curves outward and forward and then backward and inward. The lumen of the tube varies normally, admitting only a bristle at its opening into the uterine cavity, the ampulla, or thick portion, being sufficiently wide to admit the uterine sound. Under various morbid conditions, however, this normal capacity of the uterine orifice of the tube becomes greatly increased, and I therefore can see no reason for questioning the possibility of Tyler Smith's operation under such circumstances. In cases of subinvolution, for instance, as well as in some tubal diseases, I can myself bear testimony from personal experience that the sound can be readily passed through the abnormally dilated uterine mouths of the Fallopian tubes, although I quite agree with those who say that this procedure may be "by no means devoid of danger."

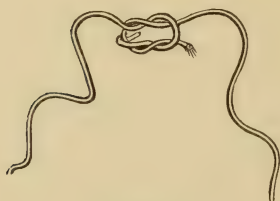
Removal of Uterine Appendages.—In those graver cases which I hope may be found by you as well as by myself somewhat more exceptional than is generally supposed, which, from the extent of Fallopian disease, from the implication in its course of adjoining structures, from the urgency of the symptoms attending its progress, or from other causes, it becomes impossible to deal with satisfactorily or safely by the methods already referred to, and in which more active surgical intervention is obviously indicated, there only remains for our adoption the complete removal of the uterine appendages.

That operation has, however, come into vogue under other circumstances than these, being supported by a large number of gynecologists as not only the most efficient, but also, in the cases in which it is required, the safest method of dealing with the tubal diseases referred to, and hence the procedure which should be generally adopted in such cases. This doctrine I cannot myself unreservedly accept, believing, as I do, that in some instances the results of salpingitis are curable without any active treatment, and that in other cases they are amenable to the minor

measures I have described. Nevertheless, in this hospital and elsewhere I have met with cases in which the only apparent alternatives were either speedy death of the patient from Fallopian-tube disease or else complete removal of the affected appendages by salpingo-oöphorectomy, which, in contradistinction to "Battley's operation," or simple oöphorectomy, is generally known as "Tait's operation," after the name of the distinguished surgeon by whom it was introduced and has been most successfully carried out in these countries. In the following observations I shall therefore very briefly describe that operation, or, at least, that method of performing it which you have here seen practised, premising that, regarding, as I still do, the ovaries and tubes as both essential factors in the menstrual function, it follows that when the latter are removed, oöphorectomy should also be combined, to obviate the possible consequences of an abortive or abnormally-accomplished process of ovulation. Nearly all the preliminary successive steps of this procedure being identical with those of ovariectomy, I shall discuss only those points in which these operations may be contrasted. The first and most obvious of these is the smaller size of the abdominal wound required for removal of the appendages. This incision should only be just sufficient to allow the introduction of the first two fingers of the operator's left hand, which should be passed down to the fundus uteri, by the position of which he will be readily guided to the contiguous tubes and to the ovaries. In such cases the often widely-distended oviduct must be most tenderly handled to avoid extravasation into the peritoneal cavity of a pyo- or hydro-salpinx; this may occasionally be prevented by aspiration of the diseased tube before any attempt to draw it out through the abdominal wound, which must be the next step in this operation when not rendered impossible by extensive inflammatory adhesions. Having thus drawn out, as far as can be safely done, the affected tube and ovary, so as to form a kind of pedicle from the broad ligament, through this, carefully avoiding injury to blood-vessels as far as possible in so doing, a blunt-pointed needle carrying a double ligature of stout silk is to be passed. This ligature may next be secured by a "reef knot," which I have myself always found sufficiently reliable and easier to make rapidly than Mr. Tait's "Staffordshire knot," the use

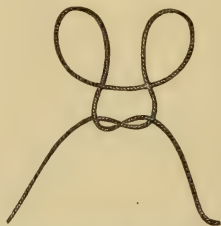
of which has been thus described by Macnaughton Jones: "A loop of double ligature is passed through the centre of the broad ligament, avoiding the vessels. The loop is then turned back

FIG. 206.



Reef knot.

FIG. 207.



Staffordshire knot (Macnaughton Jones).

so as to include both the ovary and tubes in the two loops thus formed. One free end is then passed through the returned loop; both ends are now drawn together and then cut off." Whatever ligature be employed, it should secure the pedicle, from which the ovary and oviduct are next to be separated by a blunt scissors curved on the flat, a little above the point of ligation, which may be then dropped back into the peritoneal cavity. A similar procedure may then be adopted with regard to the remaining ovary and tube, after which the abdominal cavity may be washed out with warm water, the wound closed, and the case treated on the same general principles as an ordinary ovariectomy.

This operation, although under ordinary circumstances feasible enough to any surgeon, is occasionally one that might puzzle the most dexterous specialist to carry into effect. The difficulty of removing a Fallopian tube that may possibly be distended to the point of bursting by a pyo-salpinx, without risk in so doing of rupturing the thin, tensely-stretched walls of the purulent sac into the peritoneal cavity, is obvious. Where, moreover, as occasionally happens in such cases, the ovaries and tubes are matted together, and to the ligaments, uterus, and adjoining structures, in one inextricable mass by inflammatory exudations and adhesions, that difficulty may be converted into an impossibility. I have myself had occasion to remove the uterine appendages in many cases, and, as I believe, have obtained results neither better nor

worse than the average of other gynæcologists. But, at the same time, I think it not improbable that such other practitioners as well as myself may have sometimes regretted either that they had not operated earlier or that they operated at all in those exceptionally unpromising cases to which I have just referred.

One of the latest developments of *fin de siècle* gynæcology is that which has been recently gravely advocated in the treatment of some diseases of the uterine adnexa by MM. Péan and Ségond, of Paris,—namely, the vaginal extirpation of the uterus together with its appendages.¹ That operation would unquestionably be an effectual method of removing every trace of such complaints. Nevertheless, as it seems to me about as rational as the excision of the maxilla for the relief of trouble caused by a carious tooth might be deemed, I need not waste your time by any further reference to this remarkable suggestion.

The immediately successful results obtainable from the removal of the uterine appendages, and the small mortality consequent on its performance, in suitable cases and in the hands of skilled specialists, have been proved beyond any possibility of question by the statistics of Mr. Tait's vast series of cases, as well as by those of Dr. Bantock and many other eminent surgeons. Of the ultimate curative results of removal of the uterine adnexa, however, a less hopeful view is taken by some authorities whose opinions on this subject are no less entitled to consideration. Thus, Mr. Alban Doran observes: "As a rule, oöphorectomy for chronic disease of the appendages is followed by speedy convalescence. Unfortunately, a permanent cure is not so frequent. Mental symptoms occasionally follow double oöphorectomy. The cases where the stump suppurates are particularly unsatisfactory. Fistulous tracts open, close, and re-open in the abdominal wound for months, discharging thin pus. Such cases find their way to the consulting rooms of others, or to other hospitals than the institution where the operation was performed. The operator hears no more of them, and he or the hospital registrar records them in perfect good faith as 'cures.' A larger minority suffer from a continuance of the pains which preceded the operation, probably on account of intestinal adhesions, or through

¹ *Vide* Herman, in Year-Book of Treatment for 1893, p. 310.

irremovable inflammatory products which press on nerves. The ligatures certainly set up trouble in some cases.”¹

Somewhat similar views have been expressed by American authorities. Thus, Dr. H. C. Coe, in the Proceedings of the New York Academy of Medicine, observed: “There are not a few women now attending the various clinics in New York who have had their ovaries and tubes removed, and yet who complain of precisely the same pain as before; in fact, I can recall cases in which, although the menstrual disturbance is wanting, the pain is more severe than it was before.”

This subject has been ably discussed by Dr. W. T. Lusk, who, whilst recognizing “that the removal of diseased ovaries and tubes is followed in very many cases by the relief of local pain,” that the removal of pus collections, whether in the tubes or ovaries, eliminates a source of danger to life, that, “when properly performed, the dangers of the operation, *quoad vitam*, are small, not to be weighed for a moment against the terrors of chronic invalidism,” directs attention particularly to the physiological consequences of this operation, of which “the central event is the cessation of menstruation.” The effects of this central event are thus recapitulated by Dr. Herman. “With it the uterus becomes small, the vagina narrow and smooth. Often the vaso-motor disturbances usually occurring with the climacteric in these cases remind the patient that it has been reached early. The sexual appetite is in some cases unimpaired, or even for a time increased; in others sensibly weakened, and in others abolished. The young woman who has been deprived of her ovaries cannot marry without an explanation. If marriage takes place, both husband and wife will have to struggle against the sadness and depression incident to a childless old age.” Dr. Lusk thinks there is at least doubt whether inflamed and thickened tubes always involve permanent sterility, and that most cases of tubal swelling yield to unheroic treatment. He also observes that “the performance of normal ovariectomy for epilepsy and insanity is to be regarded as hardly better than malpractice.” “The extent and frequency of serious mental change as a consequence of re-

¹ Alban Doran, F.R.C.S., “On Treatment of Chronic Diseases of Uterine Appendages,” in the *Lancet*, January 17, 1891.

removal of the uterine appendages is another question that calls for very careful investigation." Dr. Lusk's general conclusion is embodied in the following sentences: "The more the question is studied the more clear it becomes that the loss of her ovaries does make a difference to a woman. . . . It cannot be too often repeated that the successful removal of an organ is not a triumph of art, but a confession of defeat."¹

I, therefore, think that, without questioning the necessity for these operations in many instances, or the success and small mortality which have attended their performance in the hands of some surgeons, the great body of medical practitioners, who occasionally must meet and deal with cases of Fallopian-tube disease, should be very slow to adopt operations the success of which can be assured only by exceptional skill, and that, where the circumstances of the case preclude the possibility of transferring the responsibility to those possessing that capacity, they should, before attempting to imitate their practice, at least fairly and fully try the less heroic but often successful methods of treatment which have been already mentioned. I have recently had occasion to know that the repetition of this recommendation is not superfluous at the present time, having in this hospital within the past couple of sessions met with the effects of its disregard in several instances.

A few years ago I brought the increasing frequency in general surgical practice of operations for the removal of the uterine appendages, and by no means only when rendered necessary by Fallopian disease or for uterine myoma, under consideration in papers read before the Obstetric Section of the British Medical Association and elsewhere, to which I have already referred. And as the general accuracy of my opinions on this subject has been confirmed by more recent experience, I may here recapitulate the views I then expressed and still hold.

The first duty of a surgeon is to save his patient's life, and, therefore, if in a case of Fallopian-tube or other disease this can be done only by immediate removal of the uterine appendages, it is obvious that this operation should be at once resorted to.

¹ Lusk, in *American Journal of Obstetrics*, 1891, p. 1298; *vide also* Herman, in *Year-Book of Treatment* for 1893, p. 318.

But under any other circumstances it should never be lost sight of that the uterine appendages are as essential to reproductive capacity in women as the testes are in men, and that by their complete removal the patient is practically unsexed or incapacitated for the chief function and primary object of woman's married life. Nor can it ever be justifiable to perform such operations without the patient's full concurrence and knowledge of the consequences, a rule the propriety of which is now generally (but, unfortunately, not invariably) recognized and acted on. It also appears to me that the removal of the ovaries and Fallopian tubes is even yet occasionally somewhat too readily resorted to in non-organic disease as a possible means of relieving neurotic and hysterical symptoms. It may, therefore, be well to repeat that other operations and methods of treatment have ere this been for a time as generally accepted, and then, having perhaps been carried beyond their judicious application, have fallen into desuetude. We have, therefore, no guarantee in the present frequency of resort to the removal of the uterine appendages that the same may not in course of time happen also with regard to these operations, which, valuable and successful as they have proved in suitable cases, should, in my humble judgment, never be lightly regarded as measures of election.

The question of election or necessity I regard as the cardinal point to be decided in considering the expediency of removing the uterine adnexa in the treatment of Fallopian-tube disease. In many instances, unquestionably, as I have already said, that course becomes a necessity, and is then the duty of the surgeon. It should never be forgotten, however, that in probably a no less large number of cases tubal diseases may also be successfully treated by some of the remedially effectual, conservative measures to which I have referred.

LECTURE XXIX.

DISPLACEMENTS OF THE OVARIES.

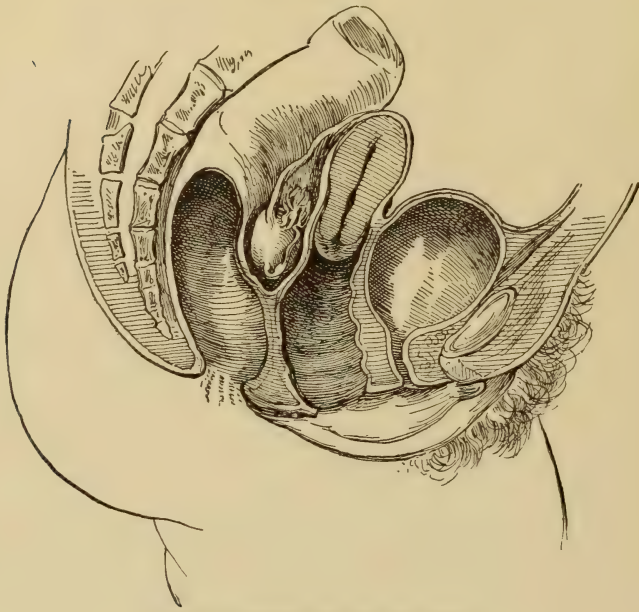
GENTLEMEN,—Displacements of the ovaries, apart from those caused by ovarian disease, until comparatively recently were almost completely neglected by gynæcologists. From clinical experience I have long been convinced that ovarian herniæ are of more common occurrence and greater importance than is commonly supposed. In every-day practice a certain proportion of our gynæcological patients complain, among their other troubles, of some degree of dull sickening pain, the situation of which is referable to the inguinal region. If further investigation be instituted in such cases we may, in not a few instances, be able to trace this pain to ovarian displacement, which, however, is too often passed over without recognition, owing to the greater prominence of other symptoms.

Ovarian herniæ may be found in the inguinal region, and may be either direct or oblique. In the former the tumor appears in the groin above Poupart's ligament; in the latter it follows the course of the canal downward and forward, and makes its way into the labium. Occasionally the displacement is observed in the femoral region, immediately below Poupart's ligament, and to the inner side of the femoral vessels. Still more frequently the ovary is displaced downward into Douglas's space, and this prolapse may, for all practical purposes, be considered as an ovarian hernia. In these cases generally the left ovary, as from its anatomical position might be anticipated, is that prolapsed into the recto-vaginal fossa, where, on examination, it may be discovered as a small oblong, elastic and highly sensitive tumor, bulging into the post-cervical vaginal cul-de-sac.

Although in some instances congenital, these herniæ most commonly occur in patients whose abdominal parietes have been relaxed and viscera compressed by repeated gestation. They may also be induced by similar immediate causes as other herniæ, such as the violent muscular efforts of the second stage of labor, lifting a heavy child, straining at stool, etc. But in the most frequent

of all forms of ovarian displacement—namely, that downward into Douglas's space—the causes of the protrusion are more usually gynæcological, as, for instance, the *vis à tergo* of ab-

FIG. 208.



Ovarian prolapse into Douglas's fossa.

dominal or uterine tumors, or the direct tension on the uterine appendages occasioned by displacements of the uterus.

Symptoms.—Ovarian hernia manifests itself by the sudden occurrence of a small ovoid tumefaction possessing certain distinctive characteristics, and making its appearance in either the inguinal or femoral regions, or in the labia, or directly downward in Douglas's space. This tumefaction, as observed in its ordinary condition, is about the size of a large walnut, and when inguinal is very slightly sensitive. Before the menstrual period the extruded ovary becomes enlarged,—in one case recently under my care it increased to the size of a small orange,—and then gives rise to a dull aching pain, which gradually subsides, so that shortly after the termination of the menstrual epoch the displaced organ resumes its previous condition, and generally ceases to give any active trouble until its functional activity is again stimulated by

the approach of the next catamenial period. In some instances, however, these symptoms do not thus disappear in the interspace, the dull sickening pain remaining permanently, and the congestive hypertrophy of the displaced organ continuing to increase until relieved by suitable treatment.

Diagnosis.—That the differentiation of ovarian displacements was formerly very imperfect is, I think, evident from the scant notice of such cases by the older gynæcologists, by whom their existence was either ignored or confounded, when external, with enlarged inguinal or femoral glands, or, when labial, with other tumors in that situation; whilst ovarian protrusion into Douglas's space was apparently in many instances taken for pelvic abscess, subperitoneal pedunculated fibromata, hæmatocele, or the displaced fundus uteri. We at least have now no excuse for similar errors in the diagnosis of ovarian herniæ. These, whether inguinal or femoral, may be readily distinguished from enterocele by the entire absence of the characteristic smoothness and globular form, gurgling on compression, and resonance on percussion of the latter; whilst from epiplocele they may be differentiated by contrasting the firm, clearly-defined, ovoid tumor observable, if it be ovarian, with the soft, doughy feeling and irregular, ill-defined outline of the hernia, if omental. From enlarged inguinal or femoral glands an ovarian tumefaction may be recognized by the smaller size and multiple character of the former; whilst from any pelvic or other abscess, the distinction is obviously rendered possible by the history of the case, as well as by the presence or absence of fluctuation. Lastly, ovarian prolapsus into Douglas's space is distinguished from a posterior uterine displacement or fibro-myoma by recto-vaginal examination and the use of the sound. From the tumefactions in the posterior vaginal cul-de-sac that may be occasioned by cellulitis, rectocele, tubal gestation, parovarian or broad ligament cysts or abscesses, or pedunculated subperitoneal fibro-myomata, ovarian prolapsus may also be differentiated by the methods of examination just alluded to. If the uterus and its attachments be thus found normal in size and position, if there be no fluctuation discoverable, and if at the same time in the posterior cul-de-sac we discover a small, well-defined, firm, ovoid tumor, enlarging regularly at each menstrual period, and which on slight pressure gives rise to a

peculiar sickening dull pain, we need have little hesitation in concluding that we have to deal with a case of prolapsed ovary.

Treatment.—The treatment of ovarian displacements is necessarily dependent on the situation of the extruded organ in each case; or, in other words, whether it be found at either of the abdominal rings, or in the labium, or in the recto-vaginal interspace. In the first of these, whether the ovarian hernia be above or beneath Poupart's ligament, an effort should in the first instance be made at its reduction by taxis. In the majority of cases, however, such herniæ are irreducible when seen by the gynecologist, and even in those few instances in which reduction is possible, the retentive pressure of a truss is neither endurable nor effectual. In most cases of this kind we must, therefore, be content to protect the ovary, if protruded externally, from further extrusion or injury, by a well-fitting hollow truss. But before this an attempt should be made to lessen the local hyperæsthesia of the generally hypertrophied displaced gland by sedative applications, and, if necessary, by leeching, etc., whilst the constitutional irritation almost always present in such cases should be allayed by suitable constitutional treatment.

When, however, these measures prove ineffectual in relieving the almost constant, worrying, aching pain which at each monthly period in these cases becomes accentuated into acute suffering; when, too, the patient's health is endangered by the constitutional irritation occasioned by this apparently trivial and too often neglected displacement, we should then fall back on the extirpation of the dislocated and probably diseased gland as the only resource available under the circumstances.

In my own practice I have more than once been thus obliged to resort to this procedure. In one case the ovarian hernia occupied the right labium, the patient being an unmarried woman about forty years of age, who, when admitted into hospital, was completely broken down by dull, dragging pelvic pain, anorexia, and nausea. She was greatly emaciated, despondent, and hysterical. Menstruation was scanty and somewhat irregular, and physical examination failed to disclose any other local complaint than a tumor, almost as large as a hen's egg, within the right labium, any handling of which occasioned severe pain and nausea. This swelling she had noticed only a few months before admission

into hospital. The patient having been etherized, my colleague, Dr. Kennedy, and myself proceeded to remove the tumor, which was found to extend through the canal, to the walls of which it was firmly adherent in many places up to the abdominal ring, where it tapered off to a narrow pedicle, which was secured by double ligature and divided. In so doing several large vessels had to be ligatured, and free, venous oozing also took place, which was arrested by packing the cavity with iodoform gauze, and subsequently bringing the edges together with wire sutures and compression. That night she slept fairly; her temperature was 101° and pulse good. Next morning she had some retching, but was able to retain a little iced champagne and jelly; she was extremely weak; her temperature was only 99° and pulse 120; a few hours later, however, she suddenly became collapsed and died. We were not able to secure permission for a post-mortem examination, which we were anxious to obtain. The tumor removed, on careful examination, verified our diagnosis, proving to be a greatly hypertrophied and disintegrated ovary.

In the next case of ovarian hernia that came under my observation the issue was more fortunate. In this instance the displacement was situated in the left inguinal region, just above Poupart's ligament. The patient was a young lady who shortly after marriage commenced to suffer from dragging pelvic pain, irritability of stomach, loss of appetite, and consequent wasting and debility, further increased by menorrhagia. She also now became extremely hysterical and despondent, and for nearly two years before I saw her had been under almost continual gynecological treatment abroad and at home, during this time having, *inter alia*, worn almost every form of pessary for the relief of some supposed uterine displacement. Ultimately a small ovarian hernia, which became very troublesome at each monthly period, was discovered in the left inguinal region, and being irreducible, after the failure of other treatment, its removal was proposed and agreed to. Accordingly I extirpated the dislocated ovary, after which she made a rapid and complete recovery.

Another case of the same kind, in a young unmarried woman, was afterwards under my care in St. Monica's ward; but the patient declined operation. To these cases of true ovarian hernia I might, did time permit, add the history of many cases of pro-

lapse of the ovary into Douglas's space which have come under clinical observation in the hospital within the last few years. In only one of these was oöphorectomy found necessary, the others being sufficiently relieved by the replacement of the ovary followed by the application of a suitable support, viz., my roller pessary.

I need hardly observe that not only are ovarian herniæ requiring removal of the gland, as just said, very exceptional, but also that the performance of oöphorectomy under such circumstances is by no means always devoid of risk. Hence in no instance should this step be resorted to without urgent necessity, and until a fair trial has been first made of other remedial and palliative measures.

In considering the treatment of prolapsus of the ovary, its causes must be carefully borne in view. Thus, the extrusion may be due, as already pointed out, to the pressure from above of a uterine or ovarian tumor, or to the traction of a uterine displacement on the broad ligaments, and obviously these abnormalities must be removed or relieved before any successful reposition of the prolapsed ovary can be made. When this condition is due to some accidental circumstance or to a relaxed state of the parts occasioned by constitutional causes, we may with greater probability of permanent success attempt to return and retain *in situ* the displaced viscus. For this purpose the patient should be placed in the genu-pectoral position, when by firm but gentle, steady, bimanual pressure through the rectum and vagina, upward and forward, we may be able to lift the extruded ovary out of the recto-vaginal fossa and to push it up into its normal position, where it may then be retained by the support of a well-fitting pessary, which in the majority of instances will be found effectual in preventing any further prolapse. Finally, in cases where these measures fail, and where the local and constitutional effects of the ovarian prolapse are urgent, we may, as happened in some of my cases, possibly be obliged to resort to vaginal oöphorectomy.

LECTURE XXX.

ACUTE AND CHRONIC INFLAMMATION OF THE OVARIES.

GENTLEMEN,—Although the study of ovarian disorders (including tumors as well as inflammatory diseases therein) has become so largely developed within a comparatively recent period that a distinct course of lectures might now be profitably devoted to this special subject, it may, nevertheless, I think, be found possible to condense within a very brief space all that is of immediate practical importance with regard to the general pathology and treatment of the inflammatory affections to which the ovaries are subject.

Acute Oöphoritis.—Whatever may be the case elsewhere, in this hospital, at least, acute inflammation of the ovaries is by no means uncommonly brought under our clinical observation, especially in patients originally admitted for the treatment of dysmenorrhœa. The frequency of this disease as here observed in these and other instances is, however, greater than would appear to be the case in the experience of some other gynæcologists. Thus, a distinguished authority on this subject, Dr. Emmet, of New York, says,—

“Primary interstitial inflammation, or (according to Kiwisch) inflammation of the ovarian stroma, occurs very seldom in the non-puerperal state, especially if we exclude slight œdemas and hyperæmias, which are frequently developed in the pelvic organs during menstrual congestions and other determinations of blood. Schroeder states: ‘Two forms of oöphoritis are to be distinguished: the parenchymatous, or follicular, in which the structures proper of the gland, the Graafian follicles, are inflamed, and the interstitial, in which the connective-tissue stroma is inflamed. Inflammation of the glandular part of the Graafian follicles is, according to the investigations of Slavjansky, very frequent.’ Scanzoni and others designate a third form, due to ‘inflammation of the peritoneal covering of the ovary,’ but, as recent observers have been able to demonstrate the fact that the ovary is not covered by the peritoneum, this form cannot be accepted without

further explanation. The surface of the ovary undoubtedly becomes inflamed, but this is due to its close connection with the peritoneum, so that any inflammation of this membrane in the neighborhood of the ovary must involve that organ. This is so common that we believe the ovaries suffer far more from peritonitis or cellulitis in their vicinity than from disease originating within or confined to their own structure." Scanzoni met with only a single case of non-puerperal acute oöphoritis, where, in consequence of death from pneumonia, he was able to study the exact pathological changes. After describing the post-mortem condition he says, "The pathological alterations which we have met with in this ovary correspond perfectly to the description which some authors have given of acute ovaritis,—considerable increase in the size of the organ, notable hyperæmia, traces of effusion in the vesicles, purulent foci in the parenchyma, and fibrinous exudation under the peritoneal envelope of the organ. After what precedes, it may be seen that in this case we had a combination of the three forms of ovaritis, which confirms our assertion on the subject of the rarity of its existence in an isolated form."¹

Etiology.—Besides dysmenorrhœal cases, in connection with which, as already mentioned, we here meet with ovarian inflammatory conditions in a larger proportion of instances than, according to the writers just mentioned, might be supposed, acute oöphoritis also comes before us as the result of uterine sepsis or puerperal inflammation, and still more commonly than in either of the above cases it occurs as a consequence of gonorrhœal infection, being, as Sir Spencer Wells has observed, "probably of more frequent occurrence than acute orchitis is in the male." The testicles are more liable to mechanical injuries, but are probably not more liable to extension of the poison of gonorrhœa or of its sympathetic effects, and they are free from the periodical hyperæmia which may be regarded as the first step in the process of ovarian inflammation. This periodical hyperæmia, influenced by accidental sudden suppression of blood from the uterus, is the usual history of an attack of oöphoritis. Among its other occa-

¹ *Vide* Principles and Practice of Gynæcology, by Thomas Addis Emmet, M.D., third edition, p. 649.

sional causes have also been enumerated exposure to cold, particularly soon after delivery, local injuries, acute tubercular disease, the use of emmenagogues and of substances employed to procure abortion, the metastasis of rheumatism or of other diseases which in the male might similarly produce orchitis, and lastly, inordinate or premature sexual excitement, or coition too soon after parturition or too near the menstrual period.

Symptoms.—In the majority of cases of this kind the leading symptoms of the disease are continuous dull or burning localized pain on either side just above the symphysis pubis, increased and extending its area on motion or touch, together with some fulness or tumefaction over the affected ovary, though this is not generally recognizable either externally or vaginally, until a digital examination per rectum is made, by which the swollen and painful ovary may be readily distinguished. Moreover, in such cases there is invariably more or less constitutional febrile disturbance, generally a high temperature, nausea, or vomiting.

Treatment.—In the treatment of acute oöphoritis there is little to be added to the old and often effectual routine of poultices, hot anodyne stupes, and, if necessary, leeches, over the seat of pain, saline purgatives, hot baths, and vaginal irrigations, opiates, bromides, or other sedatives to relieve pain, conjointly with the administration of iodide of potassium in full doses, or some mercurial, such as gray powder, or Plummer's pil. calomelanos comp., in three- or four-grain doses, with as much antipyrin, every sixth hour until the inflammatory action has been subdued.

Chronic Oöphoritis.—Chronic inflammation of the ovaries is, as I am convinced from clinical observation, also a more common disease than is generally recognized, and not unfrequently gives rise to symptoms misascribed to other morbid conditions. Moreover, its consequences are so far-reaching, giving rise, as they do, to a long chain of reflex and nervous complications, and its treatment by any of the remedial measures ordinarily employed so often proves satisfactory, that fuller consideration must be devoted to these cases than has been just given to the acute form of ovaritis, or oöphoritis, as it is more generally termed.

Causes.—In the majority of the instances of chronic oöphoritis with which we have to deal this condition is the direct sequence of the acute and more particularly of the gonorrhœal form of

the disease, which has been already sufficiently discussed. In some instances, however, we are unable to trace the complaint to any well-marked attack of acute ovarian inflammation, and in such cases it may arise from tubercularization within the ovary itself. The importance of tubercular disease in this respect as a common factor in the causation of chronic oöphoritis was long since pointed out by M. Bernutz,¹ whose very clear demonstration we may here summarize with regard to the great similarity between such cases and those of tubercular orchitis; all the details of the one, the symptoms during life and the appearances after death, corresponding with those of the other. There are first the changes in the ovaries, which in such cases present a shapeless mass containing softening tubercle in its carnified parenchyma, thus resembling a tuberculous testicle. Then, the pathological condition of the tubes, the mixture of pus and softened tubercular matter which they contain, and the tubercular infiltration of their mucous membrane, exactly correspond with the alterations of the epididymis and vas deferens in tubercular orchitis. Moreover, the condition of the pelvic peritoneum, serous collections in some places, purulent in others, and the more or less advanced tubercular deposits of which it is the seat, present an almost absolute identity with the alterations of the tubercular tunica vaginalis. Lastly, the tubercularization of the mesenteric glands, and the miliary infiltration of the lungs, complete the analogy of the cases in the two sexes. Nor is this less complete in regard to the symptoms, the earlier of which correspond with those occurring in the male; the pelvi-peritonitis arising in the one from tubercularization of the ovaries, while in the other the tubercular orchitis is the starting-point of the mischief. This form of pelvi-peritonitis has this remarkable peculiarity, that, notwithstanding its apparent benignity, it almost invariably results in suppuration, which presents the character of spurious peri-uterine phlegmons. After puncture, pus, and possibly with it part of the ovary, escapes per rectum; this evacuation is followed by a temporary improvement, similar to that which follows in tubercular orchitis, where a puncture or incision of the distended tunica vaginalis

¹ *Vide* Bernutz and Goupil's Clinical Memoirs, Diseases of Women, vol. ii. p. 23.

allows the escape of pus and testicular *débris*. Then follow alterations of improvement and exacerbation, during which the constitution becomes seriously altered, and signs of pulmonary tubercularization appear, just as in tubercular orchitis.

Symptoms.—No disease met with in gynæcological practice is probably more obscure and insidious in its inception than chronic oöphoritis, or less definite in its general symptoms, of which the most constant are anæmia and hysteria, associated with or dependent on the disordered function of the diseased ovary,—*i.e.*, imperfect and generally painful menstruation. These symptoms are obviously of no pathognomonic value until their special significance in such cases has been elucidated by properly-directed local examination; and before that is deemed necessary the symptoms of oöphoritis are liable to be confounded with those of some of the uterine flexions or displacements frequently met with in connection with ovarian disorders. Or else those symptoms of oöphoritis are erroneously ascribed to hysteria, from the circumstance of cerebro-nervous derangements of this kind being very generally attendant on ovarian irritation.

Any doubt regarding the diagnosis of these cases may, however, readily be cleared up by a conjoint or bimanual examination per rectum and externally, on which the enlarged and tender ovary, if the case be one of oöphoritis, can be at once detected, the abdominal examination then further revealing some tenderness on pressure and tumefaction on either or both sides of the hypogastrium and above Poupart's ligament. Under such circumstances, if there should also be present some degree of constitutional disturbance and evidence of general hyperæsthesia or hysterical excitability, together with derangement of the menstrual health, whether in the form of dysmenorrhœa, suppression, or other catamenial irregularities, ovulation being necessarily imperfect or painfully accomplished in an ovary thus disorganized, we need have no hesitation in the diagnosis of the case as one of chronic oöphoritis.

In those displacements of the ovaries which have been discussed in the preceding lecture, and especially in their most frequent form,—*viz.*, prolapse of the ovary into Douglas's fossa,—the displacement, if not soon remedied, almost always eventually leads to inflammatory changes in the tumefied and congested dislocated

gland, to which in these instances, as in other cases of chronic oöphoritis, attention is first directed in the great majority of instances by the intensity of the consequent dysmenorrhœal suffering.

As already observed, acute inflammation of the ovary if neglected or not aborted by proper treatment seldom terminates by resolution, but more commonly gradually subsides to some extent, and so passes into the chronic form of the disease. The former may, and the latter very frequently does, when thus neglected, result in the complete disintegration and softening of the stroma of the affected organ, leading to suppuration. In this way the ovary may eventually, as I have seen in some instances, become converted into a thin-walled pyogenic cyst, containing a considerable quantity of intolerably fetid pus. In one of these cases the cyst thus formed ultimately ruptured into the peritoneal cavity, and so caused the death of the patient. In the other I was allowed to effect the removal of the cyst, which contained a large amount of pus. Fortunately, however, the consequences of chronic oöphoritis are by no means always so immediately grave as in the cases just referred to; and in a larger number of instances of this kind the chief pathological conditions thus produced are congestive hypertrophy of the implicated glands and hyperæmia of the adjacent peritoneum, leading, possibly, to plastic, serous, or hemorrhagic exudations or effusions, the latter probably affording an explanation in many instances of the symptoms ascribed to pelvic peritonitis, cellulitis, or pelvic hæmatocele. On the other hand, the ovaries, after long enduring chronic inflammation, in some instances eventually become atrophied, hard, and nodular. Moreover, it should also be borne in mind that chronic inflammation of the ovary does not necessarily always leave behind it any permanent alterations such as I have described, and that possibly, as Hewitt says, "at the end of sexual life ovaries which have been the seat of ovaritis for years may present nothing remarkable."

Treatment of Chronic Oöphoritis.—In the milder or less marked forms of subacute or chronic ovarian inflammation the most serviceable plan of treatment will be found in the use of counter-irritation by liniment of iodine or blistering, followed by inunction of oleate of mercury with morphine over the affected gland, together with the long-continued use of bichloride of mercury in

doses of the one-twenty-fourth of a grain thrice a day, with which may be advantageously combined iodide of potassium in efficient doses and given in combination with bark and other tonics. At the same time, bearing in mind the commonly observed association of an anæmic and hysterical or neurotic constitutional condition with this disease, whatever other treatment may be resorted to, the administration of bromides of potassium or sodium, together with valerian or other special nerve sedatives and tonics, such as the valerianates of quinine and iron, should never be omitted from the treatment of these cases.

It must be admitted, however, that in not a few instances these and all similar methods of general treatment prove wholly ineffectual in chronic ovarian inflammation or irritation. Dr. Emmet, whose remarks on this subject are well deserving of our consideration, may here be again quoted: "It is difficult to afford any marked relief during the menstrual life of the woman. Within the whole range of the disorders to which women are liable, none, as a rule, present so unpromising an outlook as this, for both patient and physician. A serious state of anæmia exists in all these cases, and the condition has already long reached a stage when it would be of little importance to determine what was the cause and what was the effect. The close relation existing, through the sympathetic system, between the generative function and general nutrition has already been treated of. During the menstrual life of a woman, the dominant influence is that which is emitted from the ovaries, and when normally directed is a most potent stimulus to healthy nutrition. It can, then, be readily understood that to correct this extreme state of anæmia, while ovulation itself is so imperfect, must be difficult. After the menopause, however, the sympathetic nerves again become dormant, in their relation to sexual functions, as before puberty, and are chiefly concerned in correcting and repairing the defects in nutrition. There are many cases where, by judicious treatment at an early stage, health can be regained. In other instances, I have known the reparative powers of nature to prevail, after every artificial means had been resorted to, and the cases regarded as hopeless. We should, then, never despair in any case. But the prognosis often turns on the degree of judgment with which the case has been treated by the physician in charge of it at the

beginning. Many a woman has been rendered incurable in consequence of the opium habit, contracted at the instigation of an ignorant or careless medical adviser. Of all drugs none is more potent than morphine to produce anæmia and to cause neuralgia by a long continuance of its own poisonous effects. I have seen several instances of so-called oöphoritis in which morphine had been freely used for years to relieve pain over the region of the ovaries, and in which, under more judicious management, an improvement in the general health took place, and all pain disappeared in two or three months after the opium habit had been broken up. I have no doubt that there are cases of local neurosis due to pressure exerted by the contraction of ovarian tissue. In these cases the pain not only continues, but will become worse, if the use of anodynes is discontinued. But in the beginning, the ill-judged use of opium doubtless aids in producing an anæmia which would otherwise not occur; and it may even induce inflammation of the ovarian tissue, through its deleterious influence on nutrition. After a certain stage has been reached in the use of morphine, but few victims will have the courage to make a real effort to get rid of the evil; in fact, the chances for reform from the opium habit are less promising than those for a full restoration of the lowest drunkard from the gutter. But the attempt at reform must be the first step, and the habit must be broken up if possible, for so long as it exists no accurate idea can be formed of the local condition. To direct any special course of treatment is impossible, since every function of the body will be impaired to a greater or less degree.”¹

Whilst fully agreeing with Dr. Emmet's observations as to the results of the morphine drug-habit in such cases, and which at the present time are still more applicable to the newer sedatives, especially sulphonal, to the use of which hysterical women are now so commonly addicted, and which produces, as I have too often seen, a “drug-habit” still more injurious in its ultimate consequences than even morphine or opium, nevertheless, I would venture to take a somewhat more hopeful view than he does of the general treatment of cases of chronic ovarian inflammation or irritation thus leading to hysterical disorders, when not complicated

¹ Emmet, *op. cit.*, p. 650.

by the "drug-habit" referred to, or where that has been abandoned. Putting that aside, I may observe that in many instances I have found all the well-marked symptoms of oöphoritis amenable to the therapeutic measures already referred to; and even in those graver cases in which chronic oöphoritis has resulted in suppuration, I see no reason why you should not, in the first instance at least, empty the ovarian abscess by aspiration, and then wash out the cavity with an iodized injection, as I have done, with satisfactory results under such circumstances. Should that course, however, be contra-indicated or prove useless in instances of severe oöphoritis in which, after a fair trial of other measures, the gravity and urgency of constitutional or nervous, as well as of local, symptoms are such as to call for immediate treatment, we will then be justified in resorting to the extirpation of the diseased gland. This may be accomplished in either of two ways: first, by simple oöphorectomy, or Battey's operation; or, secondly, and as I think preferably, the same object may be effected by Lawson Tait's more scientific operation, the advantages of which in suitable cases he has practically demonstrated,—viz., the removal not only of the affected ovaries but also of the Fallopian tubes; the method of performing which has been described in a former lecture.

LECTURE XXXI.

OVARIAN TUMORS AND CYSTOMATA.

GENTLEMEN,—Of the various ovarian diseases with which we have here to deal, by far the most important from a clinical point of view are those to which I wish now to direct your attention,—viz., cystic or other tumors of these organs. Therapeutically, moreover, this subject is of special interest, exemplifying as it does the striking contrast between the surgical practice of the present time, and its wonderfully successful results in the treatment of ovarian tumors, with that which prevailed in not very remote pre-aseptic days, when ovariectomy operations as commonly proved fatal, and hence when such operations were too generally

regarded as a forlorn hope, and seldom submitted to by patients or proposed by their medical attendants until after a long and futile trial of palliative treatment, or of other measures which probably more frequently accelerated than retarded the fatal issue.

It would be out of keeping with the scope of a course of lectures chiefly clinical, or practical, such as this, to enter into the history of the successive steps by which, from the days of the first ovariologist, Ephraim McDowell, of Kentucky, in 1809, down to the present time, modern abdominal surgery, and especially the treatment of ovarian tumors, has been brought to its present degree of success. Nor need we here attempt to discuss those still-unsolved questions connected with the pathogenesis and general pathology of ovarian cystomata which may be more advantageously investigated in our pathological laboratory under Professor McWeeney's direction than in this lecture-room, where I shall be quite content if I can put before you a *résumé* of the well-established facts bearing directly on the clinical study of ovarian tumors, the frequency and treatment of which are brought under observation in this hospital, in the practice of my surgical colleagues, as well as in these gynæcological wards, where the results of our ovariectomy operations may probably be found not less successful than those now generally obtained by surgeons or gynæcologists in such cases.

Different Forms of Ovarian Tumors.—For clinical teaching these growths may be subdivided into three categories,—viz., first, simple cysts, or unilocular cystomata, which, although most frequently parovarian, originating in the vestiges of the Wolffian bodies in the hilum of the ovaries, may, nevertheless, for all practical purposes be placed among the diseases that form the subject of this lecture; secondly, multilocular tumors, which may be either purely cystic,—as shown in the next drawing (Fig. 209), by one of our former clinical residents, Dr. J. McGee, of Melbourne,—or, on the other hand, compound, semi-solid, or glandular in character, as pictured in Fig. 210; thirdly, such ovarian tumors as are either wholly or mainly solid in structure, including fibrous and malignant—*i.e.*, carcinomatous, sarcomatous, and colloid—growths, the former of which are of less frequent occurrence than the latter, or those in which, although a large portion of the tumor is solid, the cystic or fibro-cystic character also enters into

its formation, as seen in cases of pseudo-colloid ovarian disease. Another classification is that suggested by Sir Spencer Wells, who

FIG. 209.



Simple bilocular cystoma (J. McGee).

FIG. 210.

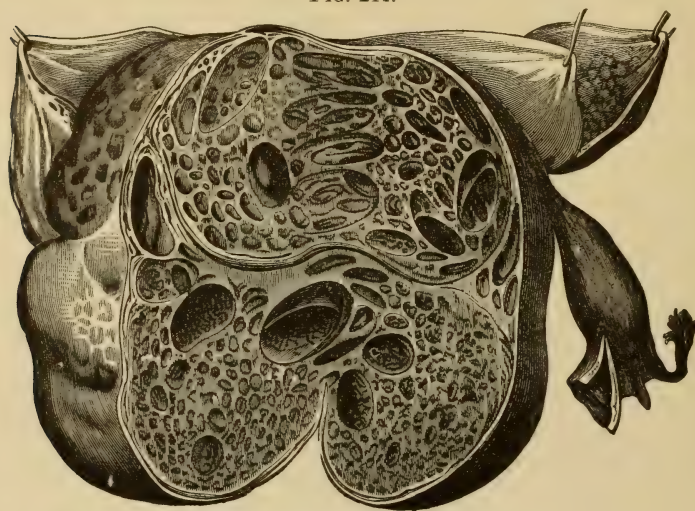


Compound multilocular cystoma (J. McGee, fecit).

divides these tumors into, first, cysts, whether simple or multiple, which from the preponderance of fluid and the small amount of

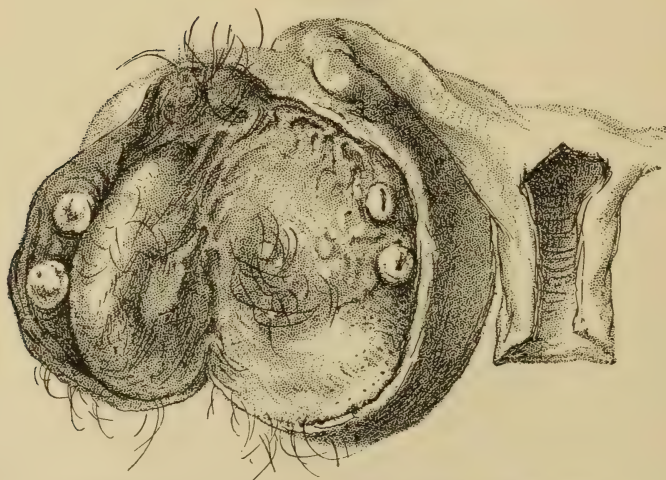
cyst-wall may properly be considered as ovarian dropsy ; secondly, solid or semi-solid tumors, which may be included under a general

FIG. 211.



Pseudo-colloid cystoma (Cruveilhier).

FIG. 212.



Dermoid cystoma (J. McGee, del., M. M. Hospital, Dublin, 1892).

class of proliferating cystoma, such as pseudo-colloid, adenoma, cystoid sarcoma, carcinomatous and papillomatous cysts ; thirdly, as a separate class, may be placed dermoid cysts.

Compound or Multilocular Cystoma.—With regard to the physical character and clinical history of these several types of ovarian growths, and first in those which are most frequently here brought under observation,—viz., multilocular semi-solid cystoma,—on examination by external or bimanual palpation over the situation of the tumor, instead of the easily-detected wide wave of fluctuation and smooth uniform surface which can be recognized in cases of simple cystic or unilocular tumors, irregularities may be felt, due to groups of cysts of different shapes and sizes or to thickening of the wall of the main cyst. The wave of fluctuation is interrupted by septa in different directions, and hard nodules or bone-like projections may perhaps be detected. Occasionally a deep sulcus between two portions of a semi-solid tumor, with resonant intestine in the sulcus, may lead to doubt whether both ovaries are not affected. Besides these, ovarian tumors which are entirely solid are occasionally met with, both as fibroma and as cancer.

Malignant Cystomata.—The importance of an early recognition of disease so rapidly progressive as all forms of malignant ovarian cystomata is obvious. The frequency of these cancerous types of ovarian tumors is proved by Müller and other recent authorities, of whose views an exhaustive analysis has been made by Dr. Goodell, of Philadelphia, in that excellent American epitome of contemporaneous medical literature, “The Annual of the Universal Medical Sciences,” of which we may in this connection avail ourselves.

Ovarian sarcomata are comparatively infrequent. Thus, Schroeder found this disease in ten out of six hundred cases of ovarian growths, Olshausen twenty-one times in two hundred and ninety-three cases. They generally occur at an early age and run their course rapidly under all circumstances. Among ninety-five cases of solid ovarian tumors collected by Leopold there were twelve of sarcoma; in five of these the tumor was on only one side, in seven on both sides. They are said by Howell to prevail most extensively when the functional activities of the gland are greatest. His description of the gross appearances of sarcoma of the ovary is as follows: “The ovarian sarcomata are not so irregular in their shape as the proliferating cystomata, being usually of oval or roundish contour; their surface is smooth, as

a rule, and of a whitish or pinkish-white color, while in consistence they are generally, though not always, soft and brain-like."

Carcinomatous ovarian tumors are, according to Müller and other authorities, more common than was formerly supposed, as within the last ten years twenty-five cases of this kind have come under Dr. Müller's own observation. They occur more frequently as a malignant degeneration of cystoma than as primary disease, and they run their course rapidly.

Diagnosis.—The differentiation between fibroma and sarcomatous cystoma may be established by the firm knobby or cerebriform surface, the early development of ascites and adhesions, rapid growth, emaciation, and, if before the menopause, menorrhagia or other menstrual disturbances, as well as by frequent and early secondary metastasis; and on palpation sarcomatous tumors, as a rule, are found immovable, owing to the development of dense adhesions. Œdema of the external genitalia and lower extremities, as well as general dropsy with ascites, are of not uncommon occurrence. Freund lays considerable stress upon the presence of hydrothorax as an evidence of malignancy, which should be differentiated from actual metastatic disease of the pleura, and is no contra-indication to laparotomy; in fact, the fluid rapidly disappears after the operation. This effusion accompanies papillomata of the ovaries as well as carcinomata and sarcomata. Secondary growths on the adjacent peritoneum are not true metastases, but represent rather a sort of implantation of the original neoplasm; this distinction is of great importance clinically, since secondary tumors around the uterus do not contra-indicate operative interference, an opinion directly opposed to that expressed by Schroeder. This applies to all the varieties of malignant neoplasms of the ovaries.

With regard to the propriety of operating in these cases the writer cited insists upon the similar course of malignant disease of the pelvic organs and that of the breast or the extremities: the patient may live for years, as long as the functions of the important viscera are not disturbed. Even when the latter are affected the surgeon may prolong life by removing ascitic and pleuritic effusions, breaking up intestinal adhesions, etc. Laparotomy is preferable to puncture in the treatment of cancerous ascites, as in that due to tuberculosis, because not only can the fluid not be

Table showing Differentiation between Ovarian Tumors.

MONOCYSTS.	POLYCYSTS.	DERMOID CYSTS.	MALIGNANT CYSTS.
Slower growth not uncommon. Peculiar facial expression comes later. General health fails much later.	Rapid growth more common. Comes earlier. Fails much earlier.	Congenital; very slow, rare. Latest of all. Very late.	Rapid growth; not rare. Occurs early.
Abdomen symmetrical. Enlargement from thirty-five to forty inches. Smooth surface if monocyst. Tumor disappears after tapping. Adhesions less common and less firm. Amenorrhoea comes later.	Not symmetrical. Sometimes to fifty-five or even seventy inches. Lobulated, irregular. Does not disappear. Adhesions the rule and vascular. Comes much earlier.	Not symmetrical. Smallest; generally thirty to forty inches. A monocyst, as a rule. Does not completely collapse. Adhesions not very rare.	Cancerous cachexia and pain marked; health rapidly affected. Not symmetrical. Very large. Polycyst lobulated. Variable. Adhesions common.
Fluctuation distinct and throughout from any point to all others. Per vaginam uterus is higher and the fluctuation also. Fluid limpid, amber, bluish or greenish, viscid, and with much albumen. Contains epithelial scales, cholesteroline, fatty granules, and the ovarian corpuscles.	Uterus is lower, and the fluctuation also, or none at all. Not clear; brownish, dense, gelatinous or albuminous. Contains also blood-pigment and blood-corpuscles.	Very late. Fluctuation more obscure. Uterus lower; fluctuation dull. Light color; curdy; no albumen; partly soluble in ether. Contains epithelial scales, sebaceous matter, crystals of cholesteroline, hairs, teeth, bone, etc.	Menstruation irregularly affected; generally amenorrhoea. Fluctuation observed. Varies according to form of cancer. Containing specific proliferating cells.

entirely withdrawn by the aspirator, but there is also more danger of hemorrhage and collapse. If fluid remains in the cavity it irritates the peritoneum and this leads to fresh effusion. In view of the fact that ovarian cancer frequently arises as an apparently originally non-malignant growth, the only rational therapeutic plan, as Dr. Goodell concludes, is to remove every ovarian tumor met with as early as possible.

Dermoid ovarian cysts may be either cancerous or non-malignant. With regard to the supposed malignancy of such cystomata, however, as Mr. Alban Doran says, it should be borne in mind that in microscopic sections from dermoid cysts are observable an infinite variety of epithelial and other structures, which may bear the microscopic characters of sarcomatous degeneration and yet be perfectly innocent. In the second place, ruptured dermoids give rise to a metastatic diffusion which is clinically malignant, but quite distinct from the metastasis of sarcoma and carcinoma. The special character of these different forms of cystoma and the circumstances by which they can be recognized in each case may be best shown by a table such as that on page 367, in which will be found an abstract with some modifications of Dr. Peaslee's tabular view of this subject.

General Symptoms and Course of Ovarian Tumors.—Whatever may be the pathological character of the tumors resulting from any of the different forms of ovarian or parovarian disease, between which it is often a matter of extreme difficulty to differentiate before the removal of the growth, there are, nevertheless, certain general symptoms common to all, although variously modified by the circumstances of each case, by which the practitioner should be enabled to recognize the existence of cystomata requiring operative treatment.

In the great majority of these cases the tumor is first noticed by the patient when it begins to rise from the pelvis in the inguinal region of the side affected. Even then the character and form of the growth may often be distinctly recognized either as a lobulated, irregular-shaped, semi-solid body, or else as a smooth, thin-walled, globular cyst. In either case the amount of topical discomfort present in each instance will aid our diagnosis, varying, as this does, from that mere dull aching which in benign tumors is complained of, to the intense localized pain which gener-

ally marks the growth of a malignant cystoma. In the former the development of the tumor is usually at first very slow, and so obscure in its earlier symptoms and insidious in its course that it may have already encroached far into the abdominal cavity before any medical advice is sought; whilst in the instance of malignant and proliferating cysts its progress is commonly far more rapid and the accompanying symptoms are more pronounced. In both cases, however, after a period of comparatively slow growth, the tumor will probably enter suddenly into a stage of acute developmental activity. Thus, within a few weeks or months it often becomes so increased as to distend the abdomen to the size and aspect of the latter months of pregnancy or even larger, and then may become stationary for a time or progress so imperceptibly that, particularly when non-malignant, the patient lulls herself into the belief that its course is finally checked. But all the while the cystoma still continues its progressive and unarrestable development until its tension and pressure symptoms become unbearable; whilst should the tumor belong to any of the malignant forms of ovarian growth, the intensity and character of the pain and the constitutional condition of the patient afford sufficient evidence of its nature to the experienced practitioner. In the latter case the pain must be carefully distinguished from that denoting inflammatory action, which may occur in the surface of any cystoma and by which it may become adherent to the abdominal walls or to the adjoining viscera. At the same time, in all forms of cystomata the tortuous course of the superficial abdominal vessels becomes specially evident on the ventral parietes.

The functions of the abdominal viscera are daily more and more interfered with by the increasing bulk of the growth, and by the subdiaphragmatic pressure the respiratory movements are so impeded that rest in the recumbent position is rendered impossible. The obstruction thus occasioned to the returning blood-current through the vena cava and other intra-peritoneal vessels is also generally manifested by the occurrence of dropsical effusions into the cellular tissues of the lower extremities, thighs, and abdominal walls, as well as into the peritoneal cavity around the tumor, as was evinced in the case of a patient, now convalescent after ovariectomy in St. Monica's ward, in which these symptoms were occasioned by a multilocular ovarian tumor weighing

sixty-eight pounds, which you saw me, with the assistance of my colleagues, Drs. Lentaigue and Chance, here remove three weeks ago. In some cases of simple cystoma these acute symptoms are absent, and little distress is felt until the tumor acquires a size so great as to obstruct respiration and cause a painful sense of distention. By this time more commonly, however, if the disease has, unfortunately, been allowed to continue its course so far, the constitution is completely broken down, and eventually the patient, wasted, emaciated, and worn out with restless nights, constant abdominal discomfort, incapacity for exertion, œdema of the extremities, and dyspnœa, either dies unrelieved or, when perhaps too late, submits to an ovariectomy which should have been long previously performed.

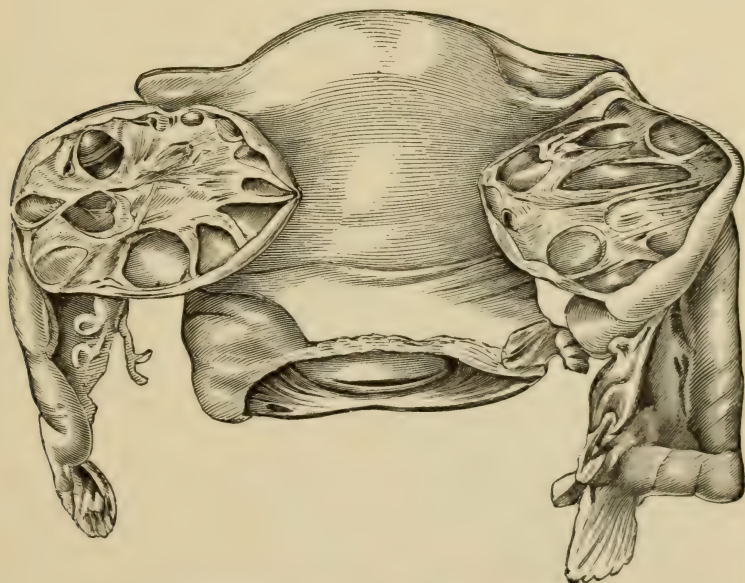
Complications in the General Course of Ovarian Tumors.—Cystomata of every kind are liable to inflammation, either on the surface of the tumor, resulting in adhesions to the adjoining viscera and to the abdominal peritoneum, and not distinguishable symptomatically from other forms of peritonitis, or to inflammation in the cyst-wall, or endo-cystic membrane, marked by acute local pain and febrile disturbances, frequently followed by rigors and suppuration, possibly converting the whole cyst into a vast pyogenic cavity containing several quarts of pus, as I have seen in some instances. Among other complications of cystomata have been enumerated intra-cystic hemorrhage, leading to the symptoms and consequences of concealed loss of blood; and, lastly, a gangrenous condition of the tumor occasioned by twisting of the pedicle, indicated by intense localized pain, and the result of which—viz., the interruption of the blood-supply to the tumor—causes its gangrene and the death of the patient, if not relieved by timely recourse to ovariectomy.

LECTURE XXXII.

DIAGNOSIS OF OVARIAN TUMORS.

GENTLEMEN,—Under this heading we must consider, first, the differentiation of ovarian tumors from other conditions with which they are liable to be confounded, and, secondly, the physical evidences by which the existence of an ovarian cystoma may be recognized. In the initial stage of a cystoma, whilst the tumor is still small and before it has risen into the abdominal cavity, it is often a matter of extreme difficulty to determine its

FIG. 213.



Incipient cystic disease in both ovaries (after Barnes).

character, and to distinguish it from tumors growing in the pelvic cellular tissues and lodged between the vagina and rectum, as well as from retro-peritoneal abscess, pelvic cellulitis, hæmatocele, and ovarian displacements into Douglas's space, from each and all of which, as well as from Fallopian-tube disease and ectopic gestation cysts, it may be differentiated by bimanual local examination

in conjunction with the history of the case. When the cystoma has risen into the peritoneal cavity, it may be, and in some instances has been, confounded with almost every other possible form of abdominal tumor. Thus, besides pregnancy and ascites, Sir Spencer Wells¹ has given the following formidable list of intra-peritoneal tumors which may be mistaken for ovarian disease,—viz., fibroid and fibro-cystic uterine growths, tumors or cysts of the broad ligaments, spleen, liver, or kidneys. Fecal accumulations in or tympanitic distention of the intestines, with thick or rigid abdominal walls and a fat omentum, must also be remembered and excluded, as well as fatty or fibro-fatty tumors, which may form in the omentum, or consist of hypertrophied appendices, epiploicæ, and fibro-plastic growths from any part of the peritoneum or subperitoneal cellular tissue. Cystic disease, distended bladder, pelvic hæmatocele, enlarged mesenteric or lumbar glands, aortic aneurism, and enchondroma are all conditions which must be borne in mind in cases where the ordinary signs of an ovarian cyst or tumor are not sufficiently characteristic to exclude doubt. Another and more frequent source of error is cancer of the peritoneum, not necessarily involving the ovaries, although these organs may not be free from the disease. In some cases, as Wells also points out, both ovaries and the uterus and the peritoneum everywhere become covered or infiltrated with cancerous deposits or growths, and in nearly all cases there is considerable accumulation of fluid in the peritoneal cavity. If the coats of the small intestines are involved, the very characteristic signs are manifest of movable tumors which are both hard and resonant, and which on being pressed or kneaded gurgle under the fingers. In any case of abdominal tumor, with or without peritoneal fluid, where the loss of flesh and strength is rapid, although the tumor may not be large, where there is much pain, and the patient is subject to vomiting and diarrhœa, the diagnosis of intra-abdominal cancer generally proves too true.

Such are the possible sources of mistaken diagnosis in these cases. Believing, however, from my own experience, that most of those conditions are very exceptionally confounded with ovarian cystic disease, and that in the vast majority of cases the diagnosis

¹ *Vide* Sir T. Spencer Wells on Ovarian and Uterine Tumors, p. 81.

lies between fibro-myomas, fibro-cystic tumors of the uterus, and ascites, on the one hand, and cystoma on the other, or in some instances between the latter and pregnancy, either normal or ectopic, I shall merely refer briefly to the differentiation of these more common cases, and then put before you some general observations on the method of physical investigation by which you may be enabled to distinguish between cystomata and other conditions that are liable to lead to difficulties in this way.

Ascites.—As far as my experience of a good many cases of supposed ovarian tumors sent up to the hospital for ovariectomy, and in which on examination the disease was found to be other than ovarian, enables me to form an opinion, the most common cause of diagnostic error in these cases is abdominal dropsy. It will be well therefore to recapitulate here the general symptoms which may aid you in distinguishing the latter from the former condition. If, then, the case be one of ascites, on inquiring into its history you will probably elicit some statement of cardiac, renal, peritoneal, or other constitutional disease, preceding the occurrence of the abdominal tumefaction, generally in such cases first noticed in the hypogastrium and not, as in ovarian cystoma, in either iliac region. The swelling thus occasioned, moreover, does not present the definite outline of an ovarian tumor: the distended abdominal walls,

FIG. 214.



Ovarian tumor (after Wells).

however they may bulge at the umbilicus, as is generally the case in ascites and not in ovarian disease, in the former are usually more or less flattened in the flanks, though in this respect their condition varies in accordance with every change in the position

of the patient. Above all, on percussion of an ascitic abdomen, resonance will be elicited over whatever may be its superior portion at the moment of examination, owing to the flotation of the intestines in the dropsical cavity ; whilst in ovarian diseases, with

FIG. 215.



Ascites (after Wells).

few exceptions, the extent of the tumor may be ascertained by the area of dulness on percussion over its surface. Lastly, in some cases we may possibly be enabled to decide the question by aspiration and examination of a small quantity of the fluid in the manner I will subsequently describe.

Fibro-cystic tumors of the uterus may be mistaken for ovarian cysts, from which their general symptoms are by no means dissimilar, but from which they differ essentially in their slower growth, greater preponderance of solid matter in the tumor, its comparative immobility, and in other respects, concerning which the differentiation is often a matter of extreme difficulty, and in some cases is practically impossible until an exploratory abdominal section has been resorted to. In most cases, however, much light may be thrown on the diagnosis of such cases by their history, aided by careful recto-abdominal exploration and, more exceptionally, by aspiration and microscopic examination of the fluid contents of the cyst. If in any doubtful case of this kind the age of the patient is that at which uterine fibro-cystic tumors

are most commonly met with,—namely, about the period of the menopause; if the tumor has developed slowly and has commenced in the hypogastric rather than in the iliac regions; if uterine hemorrhage has accompanied its growth, the general health of the patient being otherwise comparatively little impaired; and, above all, if on uterine exploration the cavity of the womb be found notably enlarged, then, as a rule, the tumor may be regarded as uterine rather than as either ovarian or parovarian.

Uterine fibroids are differentiated from ovarian tumors by slower growth, comparative immobility of tumor, greater density, absence of fluctuation, lesser impairment of general health, presence of menorrhagia or metrorrhagia, and by the evidence of some enlargement of the uterine cavity furnished by the use of the sound.

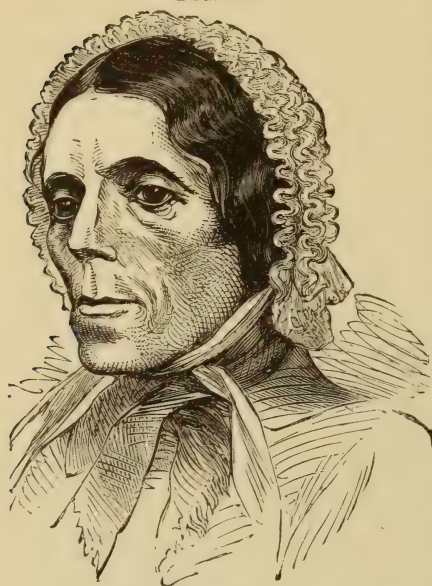
Pregnancy is also occasionally, as I have seen, confounded with ovarian cystoma, even in cases where the only semblance of an excuse for such an error was the upgrowth from the pelvic cavity into the abdomen of a tumor following amenorrhœa. It is hardly necessary to say that in those cases this mistake should have been obviated by a careful inquiry into the history of the case and the existence of the usual symptoms and positive signs of pregnancy. At the same time, however, it should be recollected that gestation not only may be confounded with cystic disease of the ovary, but also may possibly coexist with it.

Physical Diagnosis of Ovarian Tumors.—Having so far briefly considered the principal of the more commonly met with conditions that are liable to be confounded with cystic disease of the ovaries, we may devote the remaining portion of the present lecture to the methods of investigation and physical evidences by which ovarian tumors generally may be recognized, and by attending to which you will be enabled to avoid such errors in their diagnosis.

“Facies Ovariana.”—This term has been aptly applied by Sir Spencer Wells to a peculiarly pinched, anxious, worn expression of face which is so generally met with in the later stages of ovarian tumors as to be commonly and correctly regarded as characteristic of the disease. It would be difficult to describe this peculiar facial expression, the features of which will be best conveyed by the subjoined sketch, which is copied from Wells's work.

Tactile examination of the abdomen, then, is the first step to be taken whenever you are consulted in a case of supposed ovarian

FIG. 216.



"Facies ovariana" (after Wells).

tumor. For this purpose, the patient being placed in the recumbent position, you should pass your hand gently over every portion of the abdominal surface, when, if a cystoma be present in the peritoneal cavity, its existence will generally be recognizable, unless such recognition should be obscured by pregnancy, by ascitic fluid, by extreme obesity, by density or rigidity from whatever cause of the abdominal wall or its peritoneal lining, or by the unusually deep situation or small size of the tumor.

Under ordinary circumstances, however, manual examination in this way will enable you not only to ascertain the existence of the tumor but also to recognize its size, mobility, form, and in the case of a multilocular or proliferating cystoma to notice, moreover, the general character of its component cysts, or possibly to detect within the fluctuating contents included in its walls the presence of amorphous solid masses which, as has been remarked by many authorities, are occasionally so large and so variously placed as to suggest to the inexperienced observer the impression that the liver, spleen, or kidneys were in some way involved in the disease.

Visual Examination.—At the same time you should look carefully to the general contour of the abdomen, the tumefaction of which in the early stage of cystoma is most marked in the iliac or lumbar regions of one side, whilst later, or even when the tumor has apparently invaded the entire abdominal cavity, its prominence will still be found greater on one side than on the other.

Fluctuation may generally readily be recognized in some portion of every semi-solid cystoma, as well as in the unilocular form of

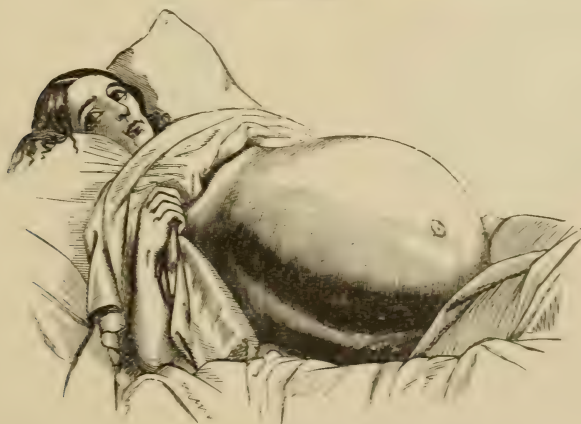
FIG. 217.



Abdominal palpation in a case of ovarian tumor (Duke).

ovarian tumor, its extent being, however, dependent in each instance on the nature of the growth and the fluidity of its contents.

FIG. 218.



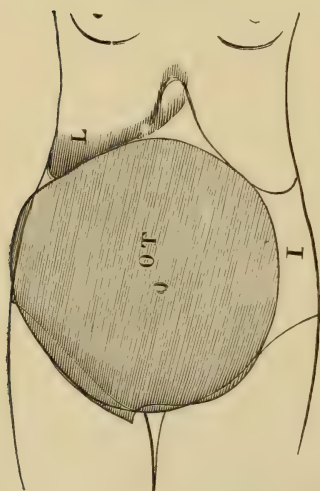
Abdomen distended by ovarian tumor.

If the case be one of unilocular or parovarian cyst, the fluctuation becomes apparent on light pressure with one hand on the

tumor, whilst by percussion on the opposite side with the other hand the wave of fluid is transmitted across the cyst. Sometimes, however, this varies in different parts of the tumor, being indistinct below, where there may be great tension, and evident above, where the growth is less confined. In repeated examinations it may be distinct in one part and only slightly perceptible in another, proving the multilocular character of the cystoma.

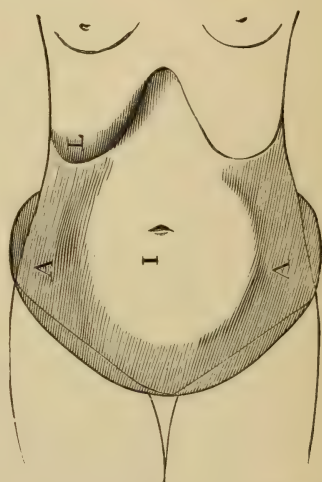
Extent of Resonance over the Tumor.—This, as ascertained on digital percussion over the supposed cystoma, is of special importance in the differentiation between an ovarian enlargement and that occasioned by ascites. In the former, as the tumor rises into the abdomen, as a general rule, it displaces and pushes the intestines above and before it, and, retaining under all changes of posture the same relative position, the tumor remains below and generally behind the intestinal convolutions. Hence, if the case

FIG. 219.



OVARIAN TUMOR; DORSAL DECUBITUS (after Barnes).—O T, dull area of ovarian tumor; I, intestinal resonance; L, liver.

FIG. 220.



ASCITES; DORSAL DECUBITUS (after Barnes).—A, ascitic dulness; I, intestinal resonance; L, liver.

be ovarian, instead of the clear hollow sound elicited by percussion over the ascitic abdomen, wherein in all positions of the body the intestines float upward on the dropsical effusion, we will have a marked dull sound over the tumor, the extent of

which may be ascertained by the contrasting resonance over the still displaced portions of intestine in the outskirts of the abdominal cavity.

This method of diagnosis between ascites and ovarian cystoma is, however, occasionally unreliable. Thus, in some instances of abdominal dropsy the amount of distention is so great that the mesentery will not allow the flotation so far upward on the surface of the ascitic fluid, when the patient is in the supine position, as to yield the resonancy so generally present in ordinary cases of this disease. Or the same result may arise from inflammatory adhesions of the hollow viscera to the omentum and other structures. On the other hand, though more exceptionally, as was clearly pointed out by the late Sir Thomas Watson, in his now too seldom consulted "Lectures on the Theory and Practice of Physic," a large ovarian cyst may exist although the abdomen is tympanitic under percussion. In an instance of this kind related by the author just named, the patient's history was that of ovarian cystoma. "Some time previously," he says, "she had discovered a small tumor in one of the iliac regions. It increased, without much disturbance of her general health, until it became very inconvenient from its bulk. She was then tapped in one of the borough hospitals; and she stated distinctly that it was not a clear watery fluid that was evacuated, but a glutinous, mixed, and grumous matter, such as belongs to ovarian disease. No doubt could be entertained that the enlargement of the abdomen resulted from disease of that kind. Yet the umbilical region, when percussed, always rendered a hollow sound. Upon the death of the patient the mystery was solved. Air hissed forth from the opening made by the scalpel through the abdominal parietes; and, the source of it being traced, an ovarian cyst of considerable magnitude was found adhering to the peritoneum in front of the belly, and containing no liquid, but some yellowish shreds only, the remains, apparently, of some smaller included cysts. This ovarian bag had been filled with air, and had given occasion to the equivocal sounds."

Aspiration, as possibly, though by no means certainly, affording some aid to diagnosis in any doubtful case between ovarian and other cystic tumors and ascites, should not be neglected. On the withdrawal in this way of a small quantity of the fluid, if

this be the serum of ascites its albumen becomes permanently coagulated by heat, whilst, on the other hand, the albuminoid constituents of ovarian fluid,—*i.e.*, metalbumin and paralbumin,—if detected in the fluid, although also coagulated by heat, can be redissolved and converted into a translucent gelatinous fluid by reboiling with a double volume of strong nitric acid. Moreover, on the microscopic examination of the sediment deposited by ovarian fluid, there may, possibly, be found in the field of the microscope the nuclei of the epithelial cells which line the interior of the cyst. These are the so-called ovarian granule-cells, and are said to be characteristic of innocent growths. On the other hand, in the fluid taken from malignant growths may also possibly be found those groups of cells of different sizes described by Thornton and others as “large, pear-shaped, round or oval cells, containing a granular material, with one or several large nuclei, with nucleoli, and a number of transparent globules. The great variety in the size and shape of the cells composing the groups is the characteristic feature. When these large groups are found in fluid removed from a cyst, it is probably malignant.” Hence some authorities believe that when such groups of cells are found either in the fluid removed from a cyst or in that from the peritoneal cavity, into which some of its elements may have passed, no other than palliative treatment is justified. This view is not, however, shared by Sir Spencer Wells, who, in his excellent *résumé* of this question in Quain’s “Dictionary of Medicine,” does not admit that microscopic science has reached such perfection as to justify a surgeon on these grounds alone in refusing to attempt to save life by removing a tumor if it can be removed by operation. And that opinion is further emphasized by the same authority in his exhaustive treatise on this subject, in which he observes, “It is to be regretted that the service afforded to our diagnosis of abdominal fluids by assisted sight is not much better than uncertain.”¹ A similar view is supported by Mr. Lawson Tait, who tells us that there is “no kind of cell of an epithelial origin not possible to obtain from the cyst-cavities of an ovarian tumor.”² And still more recently Mr. Bland Sutton has said,

¹ Sir T. Spencer Wells on Ovarian and Uterine Tumors, p. 96.

² Lawson Tait on The Pathology and Treatment of Diseases of the Ovaries, 4th ed., p. 147.

"Many attempts have been made to detect among the fluid found in ovarian cysts characters, chemical, microscopic, or spectroscopic, which would serve to distinguish them from passive or inflammatory effusions into the peritoneum. Not only have the attempts failed in this respect, but they have not even succeeded in detecting any signs by which it could be definitely decided that a given sample of fluid indicated malignant disease of the ovary or peritoneum."¹ Hence, from the microscopic character of the cells that may be found in the fluid removed from a cyst, we would not, I think, be justified in refusing to resort to ovariectomy if the circumstances of the case were otherwise such as to call for its performance, this view being further borne out by clinical experience, which shows that after the removal of a proliferating cystoma the recurrence of the disease is exceptional.

Examination per Vaginem.—Vaginal examination and the exploration of the uterine cavity by the sound are indispensable in the differentiation between ovarian tumors and uterine fibroids or fibro-cysts, as well as in that of other tumors which may project into the vaginal canal or which may thence be detected by direct or digital examination per vaginam or rectum. In this way the position, physical character, and relations of such tumors may be recognized. The diagnostic information thus obtainable from digital examination should, moreover, be supplemented by the employment of the sound in all cases where any doubt remains as to whether the tumor is ovarian or uterine, of course carefully excluding its use in any instance in which the possibility of pregnancy exists. Except in these cases the employment of the sound in the manner pointed out by my friend Dr. Atthill, of Dublin (in his excellent "*Lectures on Diseases of Women*," p. 253) affords us most important aid in forming our diagnosis. In the great majority of cases of large fibroids, whether solid or fibro-cystic, the uterus is either embedded in or so firmly attached to the tumor that it cannot be moved independently of it, a point which can generally be ascertained by inserting the finger into the rectum and keeping it there while the sound previously passed into the uterus is rotated gently. And again the sound should be held steadily while an assistant endeavors with both hands to rotate

¹ Bland Sutton, *Surgical Diseases of Ovaries and Fallopian Tubes*, p. 168.

the tumor itself. These are methods of manipulation which often enable us to decide whether the uterus is attached to the tumor or not. Still even here error is possible; for, if a fibrous tumor spring from the uterus by a moderately long pedicle, or even a comparatively short one, we may be able to move the uterus to such an extent as to lead to the conclusion that it is free; and, on the other hand, it is possible, adds Dr. Atthill, that in a case of ovarian disease the uterus might be so bound down by adhesions as to be immovable.

Having thus learned that we are dealing with an ovarian tumor, before deciding on its operative treatment, we should further endeavor to ascertain whether the tumor is fixed by deep intra-peritoneal adhesions or can be readily moved by bimanual abdominal manipulation, and whether whilst so doing we also can discover any evidence of plastic exudation or adhesion between the anterior abdominal peritoneal surface and the tumor. For this purpose, therefore, we must avail ourselves of two methods: first, tactile examination, by which the sensation of crepitus between the tumor and the abdominal wall may be felt by the hand if the growth be mobile in that direction, whilst, on the contrary, as Dr. Bantock says, "where adhesion exists between the cyst and the parietes there is no crepitus;" secondly, auscultation should be resorted to, in order to ascertain if friction sounds are then discernible or not, for, as Sir Spencer Wells has observed, "So long as the friction can be felt or heard movement must be free."

LECTURE XXXIII.

PROGNOSIS AND PALLIATIVE TREATMENT OF OVARIAN TUMORS.

GENTLEMEN,—Having sufficiently discussed the pathology, symptoms, and differential diagnosis of the various forms of ovarian tumors described in the preceding lectures, we have in the next place to consider the prognosis and treatment, palliative and curative, of these growths. Both questions might be answered in a very few words,—*i.e.*, generally speaking and under ordinary circumstances, ovarian cystomata end fatally within two years

from the commencement of their development, unless that result is obviated by timely and successful ovariectomy. On the present occasion, however, we cannot so tersely dispose of a subject of such importance as that now before us, and must therefore consider briefly the probable course and duration of the disease if left to nature, as well as the results obtainable by less serious measures, before referring to its radical treatment. In some exceptional cases of thin-walled unilocular cystoma it may happen, as here occurred in one instance which I have elsewhere recorded, that the distended cyst becomes ruptured, generally from some external injury or accident, and that its contents are extravasated into the peritoneal cavity, and being ultimately absorbed and eliminated from the system by the kidneys or bowels, the patient may be thus cured. Or, consequent on inflammation and adhesions between the cyst and abdominal parietes the contents of the cyst may be evacuated, as I have also seen in another instance, by a fistulous opening through the abdominal wall. With such rare exceptions the course of ovarian cystomata is one of progressive development, the result of which is generally quite beyond the influence of any medical or other treatment yet suggested, save the extirpation of the tumor. Moreover, the longer the last-mentioned measure be postponed, the less will be the probability of its successful result when eventually resorted to.

Taking the above statement as my text, I shall now proceed—*more predicatorum*—to enlarge, subdivide, and expound it, for your benefit, as I hope. Unfortunately, however, a lecturer on gynecology can claim no privilege to propound *ex cathedra* doctrines that none may question, but must remain conscious that should his views, whatever they may be, perchance find their way into print, they are certain, if deemed worthy of notice, in any event to be freely criticised, and he may well be satisfied if they cannot then be disproved. Hence I must put before you the grounds on which the assertion as to the general expediency of early ovariectomy in these cases has just been made.

The probable duration of life in the usual forms of ovarian tumors when left to nature, or, what is practically much the same, when dealt with by so-called ordinary or palliative treatment, may be best learned from the works of writers of the pre-ovariectomy period, as, fortunately, we no longer have such data for

information on that point as they had. Thus, according to Mr. Stafford Lee, who forty years ago investigated this question in one hundred and twenty-three cases of ovarian tumors, the duration of life in thirty-eight was one year; in twenty-five it was two years; in seventeen, three years; in ten, four years; in four, five years; in five, six years; in four, seven years; in three, eight years; and in seventeen, the duration is stated to have been from nine to fifty years. From the same statistics it also appears that in ninety-four out of the one hundred and twenty-three cases noted death occurred within five years, and that of these patients nearly a third died within one year and more than half within two years from the time the disease was discovered. Somewhat similar tables were compiled a little later by Dr. Robert Lee, from which and from Dr. Graily Hewitt's experience the conclusion may be drawn that, taking the case of a woman the subject of progressive ovarian tumor or dropsy to the extent contemplated in the above-mentioned category of cases, the chances are as ten to one that the case will end fatally in less than two years, the disease being left to itself, or palliative measures only, such as tapping, being employed. Dr. Atthill, on similar data, however, takes a somewhat more favorable view of the possible prolongation of existence in such cases. He says, "We may fairly assume that the duration of life in cases of the disease under consideration is unlikely on an average to exceed three or four years." As a rule, you may consider that, as he further points out, the chance of life being prolonged is in an inverse ratio to the rapidity of the growth of the tumor; for if this be rapid the patient will speedily be worn out, and die exhausted, from the effects of the disease, even should no intercurrent attack carry her off after a brief illness.

The duration of the case, as well as the immediate cause of death under these circumstances, is obviously mainly dependent on the special form of cystoma in each instance. I have in the preceding lectures already sufficiently described the more rapid progress to be dealt with in cases of malignant ovarian cysts, and need not again refer to these. In the common forms of unilocular cystoma, whether from dropsy of the Graafian vesicles or from parovarian or Wolffian disease, the case may progress for a comparatively long period before death results from the pressure of

the distending cyst becoming incompatible with respiration or with the other vital functions of the compressed viscera; whilst in the glandular, proliferating, multilocular forms of cystoma, the fatal event is likely to be accelerated not only by the greater intensity of accompanying constitutional disturbance but also by local inflammatory complications, or by the rupture of one of the cysts and consequent death from peritonitis or more immediately from shock or hemorrhage.

Palliative Treatment.—To this subject only a brief reference need be here made before passing to the consideration of that operative treatment of ovarian tumors from which alone, as before mentioned, any rational expectation of their cure can be afforded. Nevertheless, palliative measures are by no means undeserving of your careful attention; as, although in the present state of abdominal surgery death from the unarrested progress of an ovarian cystoma may, generally speaking, be regarded as a preventable accident, occasionally we still may meet with cases in which, either from some very exceptional circumstances rendering operative treatment inaccessible to the patient, or from her refusal to submit to it, or from her condition being such as to render ovariectomy impossible or useless, her medical attendant must necessarily fall back on any other expedient by which suffering can be relieved or life prolonged.

Medical treatment by remedies of a specific or even generally serviceable character is obviously out of the question as affording any hope of curative result in any form of ovarian cystoma. Hence I need not waste time by any reference to the long list of drugs formerly recommended for that purpose. In dealing with such cases it will obviously be your duty to employ whatever remedies may be specially indicated either to meet symptoms as they arise or to maintain the general health of the patient at the highest possible point prior to the operation. Thus, in many cases you will find it necessary to administer opiates, bromide of potassium or sodium, and other sedatives, for the relief of pain, or to give iodide of potassium or bichloride of mercury for the abatement of inflammatory symptoms, or to employ, as should be done in most cases, tonics, such as the preparations of quinine and iron, in order to improve the generally impaired constitutional condition of the patient and so fit her for the operative

treatment by ovariectomy which in the ordinary course must sooner or later be eventually resorted to.

Tapping.—In no particular is the difference between the present and former routine treatment of ovarian tumors more shown than in the change which has taken place with regard to the employment of paracentesis, which in my student days was resorted to in the great majority of those cases in which the benefits of ovariectomy are now exemplified, and which in those days were treated either by simple paracentesis, or by tapping followed by washing out the cyst—as originally suggested by Dr. Alison, of Indiana, and M. Boinet, of Paris—with a solution of iodine, which latter method has long since fallen into desuetude. Nevertheless, under certain circumstances tapping may be still not only justifiable but expedient in the treatment of cystoma. These circumstances are, among others, to which I have already referred, the existence of a distended thin-walled unilocular cyst, the fluidity of the contents of which is obvious. Such cysts may be either ovarian or parovarian, there being no well-established method of diagnosis between these conditions, in the latter of which it is possible that the cyst after tapping may either never refill or fill so slowly that life may be almost indefinitely prolonged in this way, and hence that chance, for it is only a chance, may, if ovariectomy be not consented to, be then afforded the patient. If, however, the cystoma be truly ovarian, it is, unfortunately, but too probable that the disease will develop more rapidly after than before paracentesis, and, moreover, that subsequently ovariectomy may be to some extent complicated by adhesions between the point of puncture and the abdominal wall. I myself, however, regard anterior adhesions of this kind as of comparatively little importance and easily disposed of during the subsequent operation. Nor would the possibility of their occurrence ever prevent me from performing paracentesis in any instance of simple cystic parovarian or ovarian disease in which that procedure seems otherwise indicated. The second class of cases of cystoma in which paracentesis may be advisable are those in which by tapping we can at least temporarily relieve the pain and pressure-trouble caused by a distended ovarian cyst which from the special circumstances of the case cannot be removed by ovariectomy, as well as in other instances in which the patient declines to submit

to that operation. Under such conditions tapping should unquestionably be resorted to, and, if necessary, be repeated at intervals as often as may be required, the fluid being slowly evacuated through a small canula and tube, and the abdominal walls subsequently being well supported by a binder, inasmuch as this very facile operation may possibly render life enduring or even protract its duration for a considerable period.

LECTURE XXXIV.

OVIARIOTOMY.

GENTLEMEN,—Before describing this operation I must say a few words with regard to the preliminary preparations and arrangements. In the first place it is advisable, when feasible, to premise a short period of general treatment in the way of tonics, such as iron and quinine, suitable nutrition, and attention to the excretory functions, so as to improve as far as possible the constitutional condition of the woman about to be operated on. At the same time, if a hospital patient, she should not be kept long in the hospital and repeatedly examined beforehand; but, as soon as the case has been diagnosed as one of ovarian tumor, a day should be fixed on for ovariectomy, shortly after the cessation of a menstrual period, and she should be directed to return on the evening previous to that day, and then, having had a bath, if possible, and a purgative enema, will be ready for the operation next morning. Before being brought into the operating-room, the patient's abdomen should be sponged over with sublimate or carbolic solution, the bladder emptied with the catheter, her ordinary night-gown replaced by a flannel dress, and the anæsthetic administered, after which she may be placed on the table.

Asepsis.—The vital importance of absolute cleanliness in everything appertaining to operative surgery was first demonstrated in ovariectomy by the improved results that followed the introduction of the Listerian antiseptic system into laparotomy operations, and has subsequently been best proved by those who, having

learned from Mr. Tait to distinguish between asepsis and antiseptis, have abandoned, as Sir Joseph Lister himself has to a large extent done, most of the former paraphernalia of Listerism in favor of absolute cleanliness in such cases. Up to a few years ago, when I read Mr. Tait's paper on this subject in the "British Gynæcological Transactions," I followed the then customary routine of antiseptism religiously, employing the carbolized spray, by which my own comfort during the operation was probably more interfered with than the vitality of the streptococci or other micro-organisms, in the hope of destroying which the opened peritoneal cavity was, as we all now think, unnecessarily chilled during a protracted ovariectomy. In such cases the advantages have now been sufficiently demonstrated, here as elsewhere, of the abandonment of the spray, and its replacement by greater attention than was formerly given to the perfect asepsis or cleanliness of all the surroundings and details of our operations, conjointly with the proper use during and after these operations of one or other of the various antiseptic or germicide agents now generally employed in such cases. Bearing in mind, therefore, that, as it has been well expressed, "the death-warrant of the patient may be carried under the finger-nail of the operator," the surgeon's hands and arms should immediately before setting about an ovariectomy be thoroughly scrubbed with hot water and soap with a nail-brush, and subsequently immersed in carbolic (one in forty) or corrosive sublimate (one in two thousand) solution, which precautions should also be taken by his assistants and nurse.

Assistants.—As a rule, the fewer persons present at an ovariectomy, and the less those few interfere with the operator, the better will it be for the surgeon and also the patient. Besides the anæsthetist one competent assistant and a trained nurse can generally afford any necessary aid that the ovariectomist is likely to require. The chief duty of the former should be to attend to the instruments, whilst the nurse should merely wash in successive basins and hand back the sponges as these may be required.

Instruments.—Probably the most successful results in ovariectomy are obtained by those who accomplish their operations with the minimum number of instruments. At the same time, however, as no surgeon undertaking a laparotomy can predicate with certainty the conditions or complications that may present them-

selves on opening the peritoneal cavity, it is necessary to be provided beforehand with whatever may be required to meet any of the complications that he may thus possibly have to deal with. In our ovariectomy operations in this place, therefore, the following are arranged in the carbolic troughs placed on a table immediately beside the operator,—viz., (*a*) either a short, thick-bladed scalpel, for the section of the abdominal parietes, or what I prefer for this purpose, viz., (*b*) my own “adjustable ovariectomy-knife,”

FIG. 221.



More Madden's ovariectomy-knife.

(*c*) a dressing-forceps, to pinch up the peritoneum; (*d*) a flat director, on which this may be divided without injuring the underlying cyst; (*e*) a dozen pressure-forceps, to control hemorrhage; (*f*) cyst-holding forceps, to secure and withdraw the tumor; (*g*) a large cyst-trocar, either Wells's or Lawson Tait's, with rubber tubing to carry off fluid into a receptacle under the operating-

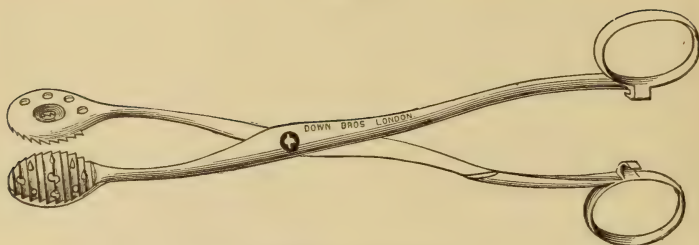
FIG. 222.



Wells's pressure or torsion forceps.

table; (*h*) a couple of retractors, to hold back edges of wound; (*i*) a clamp-forceps, for pedicle; (*j*) a strong blunt-pointed, double-eyed needle, for transfixing the pedicle, and a couple of transfixion-pins, to be used in case of necessity; (*k*) stout silk or, preferably, whip-cord, for ligaturing pedicle; (*l*) thermo-cautery and cautery-clamp, for charring divided stump; (*m*) a couple of fine

FIG. 223.



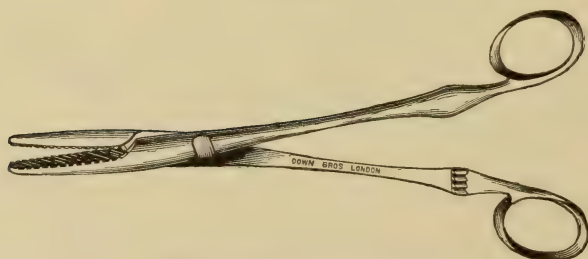
Nélaton's cyst-forceps.

FIG. 224.



Wells's larger compressing forceps, curved.

FIG. 225.



Wells's improved pressure-forceps.

FIG. 226.

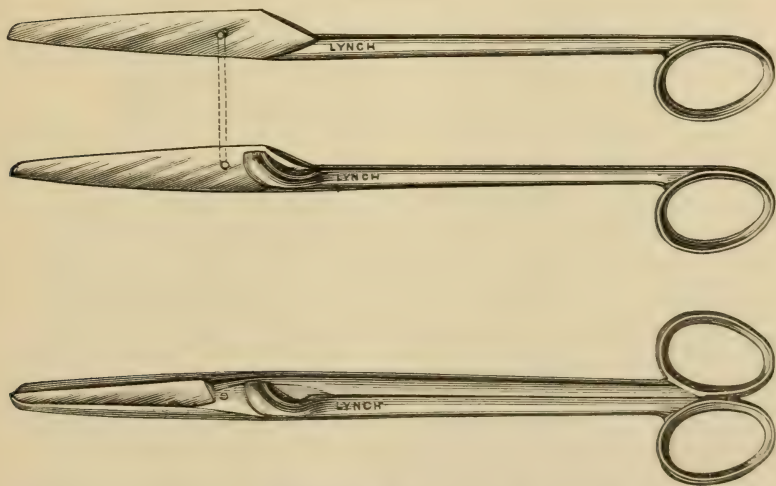


Curved scissors.

needles, with (*n*) silk or silver and gut ligatures for vascular adhesions, and those few divided vessels that cannot be secured by torsion; (*o*) a strong scissors, curved or flat, for dividing pedicle, etc.; (*p*) half a dozen full-sized straight needles, arranged in pairs and pre-armed with silver wire, for closing wound; (*q*) a drainage-tube; (*r*) an irrigator charged with hot boric solution, for flushing the peritoneal cavity; (*s*) six or eight new carefully-cleansed and carbolized sponges, placed in a couple of bowls filled with carbolic solution, on the table beside the operator. On this should also be similarly arranged the instruments above named, which should be duly assorted and laid out in the aseptic solution in porcelain trays, and kept covered by a towel until the patient is anæsthetized.

It should be hardly necessary, in these days of aseptic surgery, to observe that whatever hinged or jointed instruments are employed in an ovariectomy should be of such a pattern as will

FIG. 227.



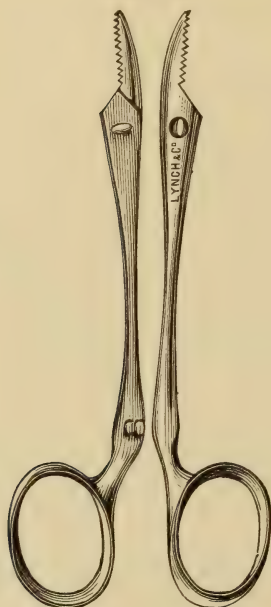
Scissors with take-off joint.

allow the detachment of the blades, so as to insure that perfect surgical cleanliness which otherwise would be impossible.

The charge of all these instruments and appliances should be intrusted to one assistant, whose principal duty it will be to hand them to the surgeon as required during the operation. Moreover, immediately prior to its performance the surgeon, as well as the

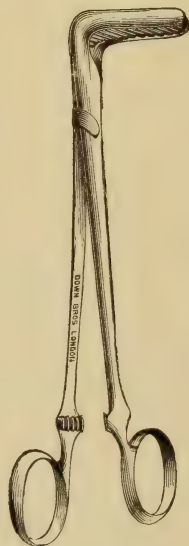
assistant, should carefully count each instrument and sponge, and again do the same before the closure of the wound, to prevent the chance of any of them being left in the peritoneal cavity, a fatal misadventure which, even notwithstanding that essential

FIG. 228.



Lawson Tait's artery-forceps
with take-off joint.

FIG. 229.



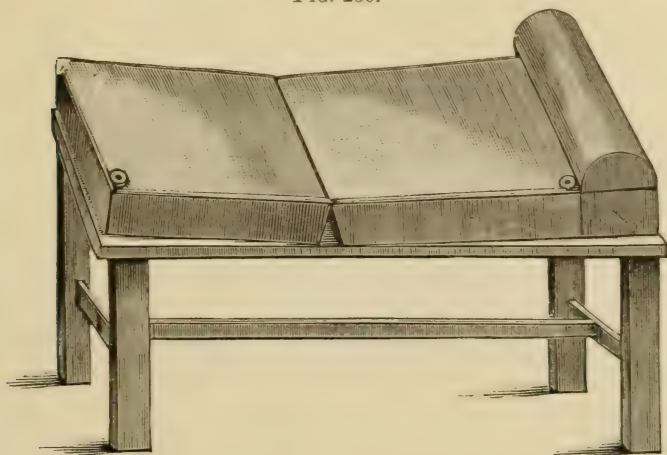
Spencer Wells's rectangular forceps
with take-off joint.

precaution, might possibly occur, as I myself knew to happen in one instance from a sponge having been torn in two during the operation. In addition to the foregoing instruments and appliances, there should be at hand in every ovariectomy an abundant supply of hot and cold water, boric and carbolic solutions, brandy, aromatic spirit of ammonia, capsules of nitrite of amyl, a hypodermic syringe, sulphuric ether, and, above all, a large bottle of that best of antiseptics, as well as of styptics and stimulants,—viz., rectified spirit of turpentine, the value of which in each and all of these ways has been amply proved in my own practice during the last quarter of a century.

Operating Table.—The most desirable table for ovariectomy or any other tedious operation is one on the plan of Duke's hot-water

couch, consisting of two flat receptacles for hot water, placed at a suitable angle on an ordinary table and covered with a blanket, which has been recently adopted in several hospitals, and by the use of which the loss of temperature and consequent tendency to shock and collapse during protracted operations is greatly mini-

FIG. 230.



Duke's double-topped table, for hot water during operation.

mized. This table, as shown in the accompanying sketch, can be so arranged as to carry out the suggestion of Leopold, whose ovariectomy patients are placed on a double inclined plane, with the pelvis elevated above the level of the thorax, so that by inserting a flat sponge in the upper angle of the abdominal wound the small intestines may gravitate upward and thus be kept out of the way of the operator, whilst at the same time the pelvic viscera can be more readily exposed and treated.

Anæsthetics.—Whatever other aid may be dispensed with during an ovariectomy, there is at least one assistant who cannot be done without,—namely, the anæsthetist. The means, however, by which the necessary immunity from pain during the operation can be best and most safely afforded is, unfortunately, a still unsettled question, and one concerning which you may with advantage consult the valuable work on “Anæsthetics, Ancient and Modern,” recently published by Dr. G. Foy, of Dublin.

1. *Chloroform.*—Of the various agents of this kind now avail-

able, probably the most effectual in those cases in which it may properly be employed, and to which its use should be restricted, is pure chloroform. But the danger attending even its most cautious use in operations such as that under consideration is, unhappily, so great that chloroform is now comparatively seldom resorted to in ovariectomy in our operating theatre.

2. *Ether*.—The next most effective anæsthetic,—viz., sulphuric ether,—although largely and advantageously employed in other operations by my surgical colleagues, is, I think, less suitable for ovariectomy. The objections to its use in these cases are not only the time generally required to bring the patient completely under its influence, as well as the possible occurrence of severe laryngeal spasm during its administration, its liability to produce subsequent bronchial irritation or pneumonia, and its contra-indication in certain renal diseases, but, still more especially, the violent attacks of vomiting occasionally produced by ether during and for some time after operations in which it is employed and the ill effects of which in an ovariectomy case would be obvious.

3. *Bichloride of Methylene*.—Thirdly in the list of anæsthetics available in this operation is that recommended and successfully used in a vast number of cases by Sir Spencer Wells, — viz., methylene or chloromethyl. Nevertheless, much as I respect the great experience of that authority on this subject, as I feel bound to put before you the result of my own observations, even if not in accord with those of others, I must say that I have found methylene—from the instability of its composition, or its tendency under certain conditions to become decomposed into chloroform of a variable degree of strength, and the consequent uncertainty of its good or ill effects—an unsatisfactory anæsthetic in some of the cases in which I thus tried it.

4. *The A. C. E. Mixture*.—For the foregoing reasons, therefore, in my ovariectomy and other operations, I have in the majority of cases reverted to the inhalation of the mixture of one part of pure chloroform with two parts of sulphuric ether and the same proportion of eau de cologne, which I first recommended twenty-two years ago as an effectual and comparatively safe anæsthetic in midwifery practice.

Ovariectomy—The Operation Described.—These preliminaries having been carefully attended to, the surgeon may then with an

easy mind set about the operation. For this purpose he should place himself on the right-hand side of the patient, the couch facing the window, in the position shown in the subjoined sketch.

FIG. 231.



Sketch of an ovariotomy operation (J. McGee, M. Misericordiæ Hospital, Dublin, del.).

The Abdominal Incision.—Taking a scalpel or an ovariotomy-knife in his right hand, the operator now makes the first incision through the abdominal parietes. The length of this incision must be regulated by the size and character of the tumor in each instance: thus, if dealing with a small or unilocular cystoma a very short incision will suffice, whilst in the case of a large multilocular, semi-solid, or deeply-adherent growth a larger opening will obviously be necessitated. In every case, however, bear in mind that any needless extension of the wound adds to the patient's danger. We should, therefore, commence with an incision not longer than two inches, which I have found sufficient in many instances of cystoma, and which, if necessary, can subsequently be enlarged to whatever extent may be absolutely required. This should be made in the course of the *linea alba*, so as to avoid division of any muscular structures, and may begin in the most

prominent part of the abdominal wall, an inch below the umbilicus. The depth of the first incision should be such as will just fall short of the peritoneal wall, and must depend on the thickness of the abdominal parietes, which may either be extremely attenuated or, as in our last laparotomy case, enormously thickened, or overlaid by many inches of dense granular fat. This point should be determined beforehand, but, if there be any doubt on the matter, it will be better to employ a few minutes in the cautious division of the successive layers of fascia and tissue, rather than incur any risk by a too bold incision or cutting into the cyst, and so extravasating its contents into the peritoneal cavity. The liability to the accident may, I think, be lessened by the use, instead

FIG. 232.



Method of holding More Madden's ovariectomy-knife.

of the ordinary scalpel, of my adjustable ovariectomy-knife, with which the depth of the incision may be accurately regulated.

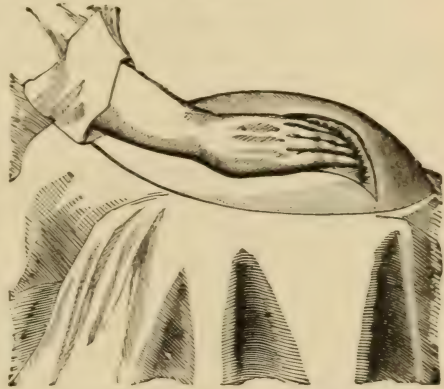
Having reached the peritoneum, this should be pinched up by a dressing-forceps, nicked with the scalpel, and then divided on the flat director to the full extent of the superficial opening. The tumor, if the case be an ordinary one of either unilocular or simple multilocular cystoma, now comes into view, and its generally glistening, pale slate-colored, smooth surface can hardly be mistaken. If it be a glandular, or adenomatous, or other variety of ovarian tumor, the physical appearance of the growth in each case, as already described, aided by digital examination, will in like manner now enable us to differentiate its special character, as well as its form, size, and adhesions, to the latter of which we must here specially refer.

Separation of Adhesions.—On the extent, density, and vascularity of the adhesions of the tumor will largely depend the facility of ovariectomy as well as the result of the operation. Our next step, therefore, must be to ascertain how far the opera-

tion is thus complicated, and, if necessary, to deal with this trouble by cautiously passing one or two fingers around the circumference of the growth, at the same time gently separating and breaking down, as far as possible, any adhesions that present themselves.

In many instances, however, the tumor may be so generally and firmly adherent to the surrounding parts that its separation therefrom would at first sight seem to be impracticable. Nevertheless, in the majority of such cases, by merely enlarging the original incision so far as may just suffice to enable

FIG. 233.



Separation of adhesions (after Wells).

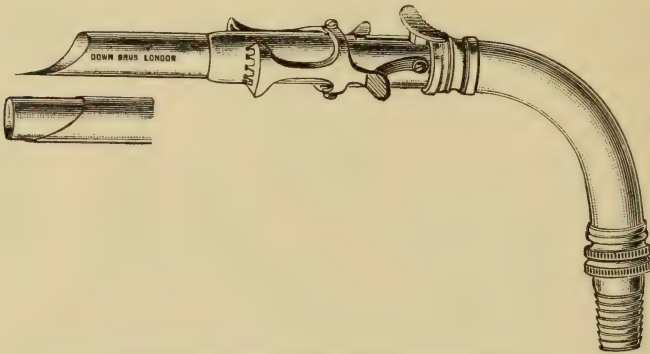
us to introduce the hand and sponge, we may be able, by patient perseverance and gentle manipulation, to break down or sponge away most adhesions without recourse to any cutting instruments, reserving the latter for those exceptionally dense bands which must be ligated in one or more sections and then divided by a probe-pointed scissors, until the tumor remains attached only by its pedicle.

It is hardly necessary to point out that in every ovariectomy the cystoma should, if possible, be removed in its entirety; nevertheless, we occasionally meet with instances in which the cyst is so intimately adherent to the adjacent intestines, bladder, or other parts that its complete removal cannot be effected without more risk of injuring the adherent viscera than I, for one, would care to incur; and, therefore, in such cases the capsule should, if possible, be split at the point of adhesion, and as far as possible separated from its outer adherent layer at that point. Moreover, in some, fortunately very exceptional, cases, on opening the peritoneal cavity the tumor may be found so universally adherent, its attachments may be so vascular, or its form, character, or anatomical relations may be such as to preclude the possibility of its ablation, and in which the wound must therefore be closed without

completing the operation. I am glad to say, however, that so far I have not myself met with any case of this kind in which the removal of the tumor was not feasible.

Evacuation of Cyst.—As soon as the separation of adhesions has, when necessary, been thus accomplished, the presenting tumor, if cystic, should be punctured with the ovariectomy-trocar, the point of which, if Wells's instrument be employed, should be

FIG. 234.



Fitch's modification of Wells's ovariectomy-trocar.

immediately retracted by pushing forward the affixed adjustable guard, whilst at the same time the cyst is secured within the grasp of the appended spring hooks, or, if Tait's excellent trocar be used,

FIG. 235.



Tait's ovariectomy-trocar.

the cyst should in like manner be caught up by a cyst-forceps. In either case the trocar and tube used should be of a sufficient calibre to allow the rapid and free exit of the oftentimes thick, viscid, gelatinous contents of the cyst, which are conducted through the

affixed tubing into the receptacle placed for this purpose underneath the operating-table; the collapsing cyst being at the same time drawn into or out of the external wound so as to prevent any escape of the contents into the peritoneal cavity. In the same way the remaining cysts of a multilocular tumor must be tapped, one after another, through the walls of the first-opened cyst, and without withdrawing the trocar, except in some instances where the contents of the cysts are so viscid that it becomes necessary to enlarge the opening so as to permit the surgeon to introduce his hand for the purpose of breaking up and evacuating their contents. After this, in the case of largely or wholly cystic tumors, the entire mass may be drawn out, by the cyst-forceps and surgeon's hands, through a very small abdominal wound. Should it be of a solid character, however, this opening must be somewhat enlarged by a blunt-pointed scissors curved on its flat, and the tumor rolled out of the peritoneal cavity by the *vis a tergo* of the operator's hand, aided by traction with cyst-forceps, until the morbid growth comes well into view or rests at the lower angle of the wound, where it must be securely retained by the clamp-forceps during its subsequent ligation and severance by the knife or scissors from the pedicle, in the manner which, with the remaining steps of the operation, will be described in the following lecture.

LECTURE XXXV.

OVARIOTOMY (CONTINUED).

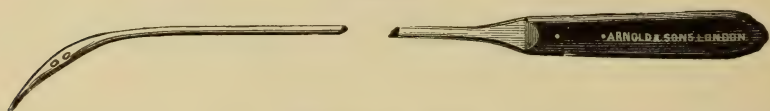
GENTLEMEN,—I have now to resume my observations on the method of performing ovariectomy, from the point at which at our last meeting I was reminded that I had reached my allotted limits of time. We had then, as you will recollect, traced the successive steps of this operation down to the stage at which the ovarian tumor had been freed from its intra-peritoneal adhesions, and, sufficiently diminished in volume by the evacuation of its fluid or semi-fluid contents, had been dislodged from its position and drawn out through the abdominal wound, remaining connected only by its pedicle. The matters we have, therefore, to

consider in the present lecture are the treatment of the pedicle, the toilet of the peritoneum, the closure of the wound, and the after-management of the patient.

Treatment of the Pedicle.—This point is one of such importance that its details must here be somewhat fully referred to. As Sir Spencer Wells observes, “The cyst or tumor having been drawn out of the abdomen, any omentum or intestine adhering to its peritoneal coat separated, any bleeding vessel secured, and the intestines and peritoneal cavity protected, as just described, by a flat sponge, the next step is to secure the pedicle. This has been done in different ways, described as the intra-peritoneal and the extra-peritoneal methods.” The latter being now so generally abandoned that in this hospital I have in no case employed it in my own operations or seen it used by my colleagues in theirs, its technique may be here omitted. Therefore, without any reference to the various appliances, clamps, etc., for extra-peritoneal treatment of the ovariectomy pedicle, which are still included in the latest surgical-instrument-makers’ catalogues, and which though designed for ovariectomy are now chiefly employed in hysterectomy operations, we may confine ourselves to considering the intra-peritoneal method of dealing with that structure in ovariectomy cases.

For this purpose the surgeon requires a long, stout, blunt-pointed, double-eyed needle, set in a handle. The double ligature

FIG. 236.

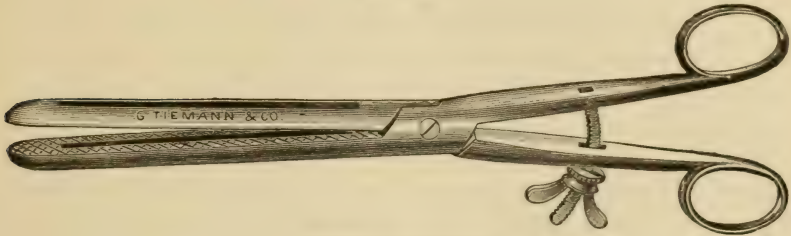


Pedicle-needle (Wells).

with which this needle is to be armed should be of thick pure silk or whip-cord, and in either case it must be sufficiently strong to bear a very considerable strain, yet so soft and pliable as to be easily manipulated, and as aseptic as it can be rendered by previous boiling in carbolyzed glycerin. With that needle and double ligature, the pedicle, being drawn to the angle of the wound and there firmly secured by clamp-forceps, is to be trans-fixed, avoiding in so doing the large vessel contained therein, and

securely ligated in at least two divisions, however narrow it may be, or in as many more if very broad or thick. These ligatures should be drawn with all the surgeon's strength as taut as pos-

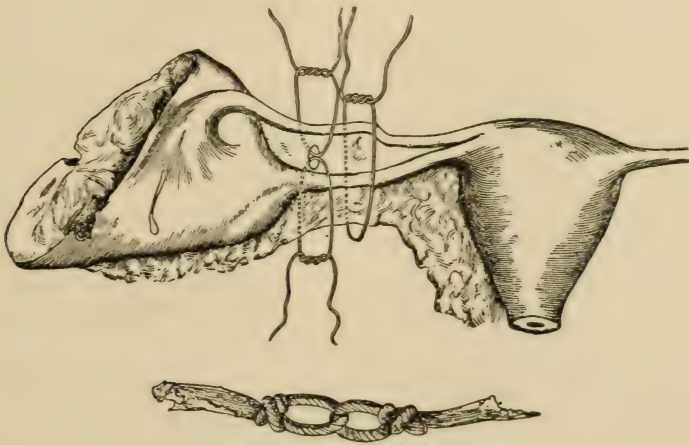
FIG. 237.



Wells's clamp-forceps.

sible, and then may be, I think, sufficiently secured by a true reef-knot. Below them again the pedicle should be tightly en-

FIG. 238.



Method of ligaturing pedicle (Wells).

circled and ligated by a double ligature of stout silk. The importance of thus securing the pedicle has been clearly shown by Sir Spencer Wells. "In ligaturing," he says, "the pedicle of an ovarian tumor it is never safe to trust to a ligature which does not transfix the pedicle, unless this be very long and slender. Many cases are on record where, after cutting away the tumor, a simple encircling ligature has slipped off, and fatal bleeding has

followed. It should be a rule, therefore, always to transfix a pedicle and, according to its size, to tie it in two or more portions before the cyst is cut away. . . . Supposing a clamp-forceps to have been first applied, the cyst cut away, and the pedicle transfixed and tied between the forceps and the uterus, the pressure of the clamp must be removed before the ligature is finally tightened, as otherwise the compressed tissue would retract and slip from under the ligature, which should always be drawn as tightly as can possibly be effected simultaneously with the loosening of the clamp.”¹ The pedicle, being thus secured, may now be slowly divided by a strong scissors (such as that shown in Fig. 226) between the tumor and the ligatures, the ends of the last made of which should be left of sufficient length to be retained by the assistant, by whom before the closure of the wound the pedicle should be again drawn into view to ensure that no hemorrhage has meanwhile occurred.

Before parting with the pedicle, however, in the manner thus described, in my own operations I have always followed the practice originally suggested by the late Mr. Baker Brown, and also adopted by Dr. Keith, with regard to the cauterization of the previously ligatured stump, which for this purpose I cut from the tumor nearly an inch longer than is generally advised, and then burn with the thermo-cautery slowly down to just such a distance above the level of the clamp as may suffice to prevent risk of injuring the ligatures until the part above this is completely charred. In so doing, moreover, by the transmitted heat the portion included within the clamp-blades is thoroughly cooked into an amorphous horny-looking substance.

The tumor being removed and the securely-ligatured pedicle dropped back into the peritoneal cavity, the operator, guided by the position of the fundus uteri, should make a digital examination of the remaining ovary and tube, which if found in any way diseased should be immediately removed by the methods previously described.

Cleansing the Peritoneal Cavity.—After the ablation of the tumor we have next to give our attention to a matter of vital

¹ Diagnosis and Surgical Treatment of Abdominal Tumors, by Sir Spencer Wells, Bart., p. 91.

importance in the prevention of death from sepsis after ovariectomy,—viz., “the toilet of the peritoneum,” or cleansing of the peritoneal cavity. The manner of carrying this out should be regulated by the special circumstances in each instance. Thus, if the case has been an ordinary one of uncomplicated simple cystoma, careful sponging with a series of well-cleansed new sponges previously soaked in carbolic or sublimate solution and passed down into the pelvic fossa as long as any exudation can be thus expressed, may suffice. But if the tumor has proved a multilocular adenoma, or malignant or extensively adherent cystoma, for the removal of which the operator’s hand has necessarily been much engaged in the peritoneal cavity, or if the contents of the cyst have been extravasated therein, this should unquestionably be washed or flushed out with warm water until the water returns perfectly clear, before the wound is closed. This practice, which is one of the many improvements in abdominal surgery for which we are indebted to Mr. Lawson Tait, has now to a large extent replaced the former tedious method of sponging out the peritoneal cavity, and for the past few years has been generally employed in my ovariectomies in this hospital, where it has proved especially advantageous in such cases as I have just referred to. For that purpose Mr. Tait uses his own ovariectomy-trocar as a siphon, attached as an irrigator wherewith to liquefy the contents of a cyst when necessary, as well as for the subsequent cleansing of the peritoneum.

In some details the method I generally follow for cleaning the peritoneal cavity after ovariectomy differs a little from that employed by Mr. Tait, of which my plan is merely a modification. In the first place, as a matter of possible precaution, the fluid I use for cleansing the peritoneum is a saturated solution of boric acid (one in twenty-five), and is applied at a temperature of about 110° F., and without any appliance except two or three ordinary jugs. From these the warm liquid is poured into the abdomen, the edges of the wound being for this purpose held apart by the assistant, and then approximated to retain the fluid for a few moments, after which the patient is rolled over the edge of the table so as to empty the peritoneal cavity.

With regard to the temperature of the water thus employed,—“If too cold,” says Mr. Tait, “it may subject the patient to some

shock, if too warm it may possibly give rise to some kind of unpleasant consequences. I prefer it to be of such a temperature as my hand can endure with comfort, and that I find to be about 103° to 107° . Extremely hot water is useful, however, in arresting hemorrhage from adhesions, and a stream of water of 120° may be directed into the pelvis for a few seconds probably with considerable benefit in arresting oozings from small bleeding vessels. But I rarely find any trouble in arresting bleeding from adhesions after the use of sponge pressure for a few moments; if it resists this a drainage-tube will almost certainly accomplish all that is required.”¹

It may be further noted that Mr. Tait does not think it necessary, as he states, “to take any special precautions to sterilize the water employed,—that is, to deprive it of its germs of animal and vegetable life,—I do not believe that they have the slightest evil influence in the peritoneum.” Further, that since adopting this method he has to a large extent given up the use of sponges for cleansing the peritoneal cavity, though he still employs them for the treatment of “bleedings, the great majority of which,” he says, “can be successfully treated by stuffing the pelvis full of sponges and leaving them there whilst we are engaged in closing the sutures.” Any fluid remaining after this method of cleansing the peritoneum may be dealt with by passing a drainage-tube down to the bottom of the pelvis just as the wound is being closed, and then removing the fluid by means of a sucker devised for this purpose. Mr. Tait’s views on the paramount importance of constant attention to perfect surgical cleanliness, or strict asepsis, in all the details of ovariectomy, rather than to reliance on antiseptic methods, have been strikingly confirmed by the experience and writings of another no less successful ovariectomist, namely, Dr. Granville Bantock, whose articles on this subject in “The British Gynæcological Transactions” are well deserving of your attention. For my own part, however, in my own operations I think it necessary to combine both these methods, though I rely much more on asepsis than on antiseptics, and I would venture to urge you to do the same.

¹ Lawson Tait on Cleansing the Peritoneum, Gynæcological Transactions, vol. iii. p. 189.

Drainage.—On this point I believe that, if the peritoneal cavity has been thoroughly cleansed as it should be, either by sponging or by flushing, in every instance before closing the incision, drainage is quite unnecessary in the great majority of ordinary ovariectomy cases. Therefore, as a rule, it is better, in the first instance at least, to close the wound completely, and so obviate the possible access of those micro-organisms by which sepsis may be occasioned. If, however, any symptoms of septicaemia subsequently occur, the lower angle of the wound should at once be reopened, the peritoneal cavity flushed out, and a drainage-tube passed down to the retro-uterine cul-de-sac, and retained as long as any oozing continues.

Closure of the Wound.—In closing the wound it probably matters little whether silver wire sutures, which I prefer, or carbolized silk suture be used. Whichever may be selected, the assistant should have in readiness half a dozen sutures about twelve inches in length and threaded on each end on a long straight needle. The stitches, commencing at the upper angle of the wound, are to be introduced from within outward in an oblique direction, so as to include only as much peritoneum as may be sufficient securely to close the wound, and subsequently in doing this the peritoneum is to be pinched up between the operator's left thumb and forefinger, and so held firmly against the edge of the wound, whilst the needle is being pushed through by the right hand, which can be thus far more easily accomplished than by the use of Hagedorn's complicated instrument or other needle-holders, all of which are more likely to get in the operator's way or break the needles than to be of any help to him. Having thus passed the needle through one side of the edge of the incision, the opposite one is similarly introduced, the ends of the open sutures, if wire, are twisted loosely and given to the assistant, by whom they are to be held out of the way, whilst the remaining sutures are introduced at intervals of one-half or three-quarters of an inch, until we come to the lower angle of the wound, when the flat sponge before referred to may be cautiously withdrawn. Then, having made sure that no oozing has taken place into the peritoneal cavity, the edges of the wound should be brought together by the firm pressure of the assistant's hand on either side of the abdominal walls, and the sutures twisted home one

after another from above downward, taking care not to force the edges of the incision too tightly together. The number of stitches will of course be dependent on the extent of the wound, but, considering the subsequent liability to ventral hernia in such cases, it is better to introduce too many than too few, although, as a rule, in an ordinary ovariectomy case five or six sutures will be ample for the purpose.

This method of closing the wound, which I employ in my ovariectomies, also differs somewhat from that followed by Mr. Tait, who uses but one needle threaded with long silk, which is introduced as a continuous suture but not drawn tight, leaving a long loop between each stitch and the next, and these loops are ultimately divided so as to convert the continuous into an ordinary interrupted suture, which is then secured in the usual manner.

To the foregoing account of the details of ovariectomy I have to add a word with reference to the importance of time as an element in determining the good or ill results of this operation. *Cæteris paribus*, the shorter the time occupied by an ovariectomy the less risk will there be of consequent death from shock or collapse, and hence the folly of wasting time in searching for and securing with catch-forceps every petty vessel in the line of incision. I think that, whilst no care can be regarded as waste of time in preventing any intra-peritoneal hemorrhagic accumulation or extravasation, it is needless to devote so much attention as is done by some operators to the arrest of merely superficial hemorrhage.

Dressing of the Wound.—The abdominal incision being closed, before removing the patient from the operation-table the dressing of the wound is the next point to be attended to. For this purpose, having carefully sponged away with carbolic or boric solution every trace of blood left by the operation, the line of sutures should be freely dusted with iodoform, over which a strip of iodoform or carbolized gauze and protective are to be laid, the abdominal walls supported by a few long narrow straps of boric adhesive plaster, so as to lessen the tension on the sutures, a pad of boracic cotton wool placed over the wound, and a flannel binder carefully adjusted over all these to support the ventral walls.

The loose flannel dress worn during the operation may be replaced by an ordinary night-gown, after which the patient,

covered with a blanket, should be cautiously lifted from the operating-table to her bed. There hot jars are to be applied to her feet, her head kept low and lightly covered with a small woollen shawl, to assist reaction, and, if necessary, for the same purpose, a wineglassful of milk with a little brandy and thirty minims of laudanum thrown into the rectum. As soon as reaction has been sufficiently established, and the surgeon has satisfied himself that her pulse and general condition are such that his further immediate attention can be dispensed with, having spoken a cheery word to his patient, he may then leave her in charge of the nurse or sister, on whose care the result of the case will now mainly depend.

After-Treatment.—For the first few hours after an ovariectomy, as a rule and under ordinary circumstances, the less the patient is disturbed by either nurse or surgeon the better. The former should then, however, never for a moment be absent from the patient's side, and the latter should be within call whenever required. Both should be careful and intelligent observers of every change in her condition, but not fussy or needlessly meddling in their interference. The patient's pulse, aspect, and temperature should be well watched and recorded on the chart by the nurse, and any evidence of hemorrhage or shock immediately communicated to the operator. Most modern authorities deprecate the use of opiates and stimulants after ovariectomy as generally unnecessary and possibly injurious. As I do not myself agree in this view, if my patient has not had the enema already referred to, as soon as she has been made comfortable in bed I generally give thirty minims of liquor opii sedativus in a wineglassful of iced champagne, or a little whiskey and lithia water, to favor reaction from the shock of the operation, allay pain and sickness of stomach, and induce sleep, which should be encouraged by the perfect quiet and subdued light of her chamber. For the next four or five hours no further stimulant or nutriment is generally necessary or will be retained; after that a little iced milk or chicken jelly in teaspoonfuls may be given if wished for, and not otherwise. The catheter should be passed six hours after operation, then twice a day, or oftener if necessary, for the week following the operation.

During the ensuing three or four days the patient should take

as little food as possible, beyond small quantities of milk at frequent intervals, or a little chicken broth may be similarly given; whilst any additional nutriment that may be required may be best administered in the form of enemata of beef tea, with a small quantity of brandy, if necessary. Under these circumstances the intestines often become enormously distended by flatus, occasioning great discomfort as well as straining on the sutures, which may generally be sufficiently relieved by a few drops of turpentine or terebene given in a teaspoonful of glycerin or syrup, or by the passage of a long rectal tube. If an ovariectomy case is progressing favorably, as a rule, no medicine whatever, except an occasional opiate draught or a hypodermic injection of morphine to procure sleep, will be necessary until the end of ten days, when, if the bowels have not been spontaneously moved earlier, an enema may be given for this purpose.

Removal of Sutures.—In these days of aseptic surgery, in a favorably progressing case of ovariectomy performed in the manner just described, there is, as a rule, no necessity for disturbing the dressings for eight or ten days, nor do I generally remove the silver-wire sutures until about the tenth day after the operation, when, on their removal, I hope to find the line of incision fairly united. Having then cut and withdrawn these sutures, the cicatricial surface is to be sponged over with warm carbolic solution and again dusted over with iodoform, covered up, the ventral walls again supported by strips of plaster, and a fresh binder applied as before. Nor, to obviate the otherwise probable occurrence of ventral hernia after ovariectomy, should the latter be left off for some months following convalescence. In most of the cases so treated here our patients have been able to sit up three weeks after operation, and to leave the hospital within a month or six weeks from the time of its performance.

Results.—Such, gentlemen, is the routine treatment which you have here seen adopted in our ovariectomy cases. The practical results of that method, being a rate of fourteen per cent. of mortality and eighty-six per cent. of recovery in the cases so operated on, are sufficiently satisfactory to warrant my now recommending it to your adoption. For, although it certainly cannot be claimed that those results rival the exceptional success recorded by a few distinguished specialists in ovariectomy, nevertheless, as

I have before observed and may venture to repeat, probably they may bear comparison with the experience of the majority of other operating surgeons in similar cases. At the same time, unfortunately, it must also be repeated that, although such recoveries are now the rule, exceptional instances have in fourteen per cent. of these cases not been here, as elsewhere, wanting to show that recovery may be interrupted or marred by untoward circumstances or complications, among which the following have been enumerated by authorities on this subject,—viz, collapse or shock, hemorrhage, immediate or secondary, peritonitis, and, above all, septicaemia. It would be impossible, however, without further undue extension of this already overlong lecture, to enter on the treatment of these conditions, which must be dealt with on those general principles that most of you are already sufficiently acquainted with, but the application of which to those particular cases is a very important matter, to which I hope before the termination of our course possibly to be able to return.

PART V.

MENSTRUATION AND ITS DISORDERS.

LECTURE XXXVI.

AMENORRHEA.

GENTLEMEN,—The influence of the menstrual function on all those developmental changes which mark the successive epochs of woman's distinctive sexual or reproductive vitality, from its dawn at puberty to its close at the menopause, as well as the importance of the various abnormalities by which the menstrual flux may be affected or which may be connected therewith, are among the most frequent of the subjects which are brought under gynæcological observation. Having regard, however, to the many practical topics that yet remain for our consideration, I must refrain at this advanced period of the session from entering as fully as I should wish to do into the consideration of questions of such wide extent and far-reaching interest as those that might be included in the pathology of that complex function on the integrity of which woman's reproductive vitality, as well as her general health and happiness during the best portion of her life, are so intimately dependent. Nevertheless, this subject cannot be discussed, no matter how briefly, without some reference to the physiological processes by which the evolution, periodic recurrence, and cessation of normal menstruation are accomplished, as well as to those different morbid conditions by which the menstrual function may be disturbed. The following lectures must, therefore, be restricted to such an outline of the more salient facts bearing on the catamenial disorders that come under clinical notice as may, I trust, prove sufficient for your guidance when dealing with them in future practice. In so doing I shall avail myself of some of my

previous observations on the phenomena and derangements of early menstrual life ;¹ with regard to the former of which I need not occupy much of your time, it being altogether beyond the scope of the present course to attempt any discussion of the widely-opposite physiological doctrines advocated by authorities of equal eminence with regard to the causation of menstruation, our former views concerning which have been to a large extent controverted by the researches of Johnstone, Lawson Tait, Engelmann, of St. Louis, Bland Sutton, Stewart Paton, and other recent English and American authorities. Among the points now at issue are, first, the influence of ovarian action, or ovulation, on menstruation ; secondly, the structural character of the endometrium ; thirdly, and consequently, the fact of and the influence ascribed to its periodic shedding or denudation in the causation of the catamenial flux, which, according to Johnstone, on the contrary, replaces the increased lymphatic circulation of the lower animals, and prepares the endometrium for the reception of the ovum, just as the œstrum with its attendant increase in the lymphatic circulation does in them ; and, fourthly, as a factor in menstrual physiology, one of the latest writers on this subject, Dr. S. Paton, of New York, emphasizes the agency of the nervous system, with its complex supply from spinal and sympathetic sources, and automatic ganglia in the uterus itself.

Such are some of the most important points of difference between the newest theories and older doctrines with regard to the causation of the phenomena of menstruation, to discuss which, however, as before said, would be entirely beyond my province here. Hence I shall now confine myself to a brief recapitulation of the more commonly accepted views that bear directly on the pathology and treatment of catamenial disorders, and by acting on which I have obtained sufficiently satisfactory results in actual practice in such cases.

Period of Commencement of Menstruation.—The commencement of female reproductive capacity, extending from the epoch of puberty to the menopause, is generally dated from the first

¹ *Vide* articles by the present writer, "On Puberty," in "Cyclopædia of Diseases of Children," edited by Dr. Keating, Philadelphia, 1890 ; and in Quain's "Dictionary of Medicine," 2d ed., London, 1893.

appearance of the catamenia, which most commonly in this country occurs between the fourteenth and sixteenth years of age. Thus, in four hundred and ninety-four cases in which I was able to obtain accurate information, four menstruated for the first time when under twelve years of age, seventeen at twelve, fifty at thirteen, ninety-four at fourteen, one hundred and thirty-eight at fifteen, one hundred and five at sixteen, sixty-five at seventeen, ten at eighteen, and fourteen when over eighteen years old. These figures merely indicate the ordinary periods of the commencement of menstruation in one locality and one class, namely, the hospital patients of one observer, and hence are by no means sufficiently extensive to afford more than an approximation to the average date of the evolution of that function. This, as you should already be aware, *cæteris paribus* occurs earliest in warm climates (of which I have seen many instances in southern Spain and Italy as well as in other semi-tropical or tropical countries), sanguine temperaments, and highly civilized or luxurious states of society ; being, on the other hand, as distinctly retarded by the opposite circumstances. Even in temperate climates, however, the period of first menstruation varies greatly, being modified not only by the causes just referred to, but also by the special physical condition of the patient in each case. Thus, some years ago, I recorded an instance of established ovarian activity in the case of a girl whose accouchement in her fourteenth year I attended in Dublin ;¹ and similar instances of precocious reproductive maturity in this country have been reported by Dr. Macnaughton Jones and others. Such cases are, here at least, fortunately extremely exceptional. Much more frequent in our cold, or, as some regard it, temperate, climate, is a retardation of the menstrual function beyond the usual period of its commencement. In many instances I have noted the first appearance of the catamenia in patients considerably upward of twenty years of age, and in one of these cases that function was not established until the marriage of the patient in her twenty-sixth year, nor did it recur until some months after the birth of her first child, from which time she then menstruated regularly.

The possibility of fertility before the establishment of the cata-

¹ More Madden "On Puberty," in Quain's Dictionary of Medicine.

menia, as well as in instances of subsequent complete amenorrhœa, must also be referred to, inasmuch as such instances have been recently adduced as affording additional disproof of the ovulation theory of menstruation. Cases of this kind have long been familiar to readers of older medical literature, one of the most remarkable of these being that observed by Professor Frank, of Vienna, in a multipara who gave birth to three children, although neither in single nor married life had she ever menstruated. Many years subsequently, at a meeting of the Westminster Medical Society, Mr. Harrison cited an instance in which the mother of a large family had never menstruated. Dr. Johnson mentioned that he had under his care some members of a family in which there were five daughters, whose ages ranged from twenty-six to thirteen, who, though in excellent health, had never menstruated. This subject has more recently again been brought into prominence by a case published by Dr. Marion Dunagnan, who states that a pregnant colored woman, already the mother of ten children, assured him that she never menstruated in her life, and that she was nineteen years old and the mother of two children before she knew that such a phenomenon occurred in women. She was a stout, healthy woman, did hard work constantly for her living, and the only inconvenience that she experienced was an occasional swimming in the head, which was but trifling. Dr. Dunagnan holds that this case proves conclusively that menstruation and ovulation are neither essential to nor dependent on each other.

For my own part, however, I must repeat that so sweeping a general conclusion as that just quoted appears to me as very far from proved by the evidence afforded in any of the foregoing and other exceptional cases of this kind that I have yet seen an account of. It should, however, be here observed that the views above referred to are in accordance with the teachings of Mr. Lawson Tait, whose opinions, whether we agree with them or not, are always entitled to our most careful consideration. As the result of his exceptional experience of the pathology and surgery of the uterine appendages, Mr. Tait, speaking of the causation of menstruation, concludes that, "in fact, the ovaries have nothing whatever to do with it; and the (Fallopian) tube has this at least, it is the subject in which the initial phases of

the phenomena occur." Nevertheless, as I have here to express my own opinions rather than those of others, in the following brief observations on the phenomena and disorders of early menstruation, I must adhere to the hitherto more generally received doctrines on this subject.

As I have pointed out already, the chief characteristic of the change from girlhood to puberty is the regular establishment of the periodic function of menstruation, for the accomplishment of which the conjoint functional activity of the ovaries, Fallopian tubes, and uterus is, generally speaking, essential. This process commences in ovulation, or the maturation of a Graafian follicle, followed by the escape of the contained ovum and its passage through the Fallopian tubes into the coincidentally actively congested uterus, whereof the lining mucous membrane or endometrium, or merely its epithelium, undergoes disintegration or shedding, and consequently on that denudation there now ensues a hemorrhagic exudation from the underlying exposed vascular surface, varying in amount, under normal circumstances, from four to eight ounces, and the discharge of which per vaginam extends over a period of from four to five days at each recurrent monthly epoch.

Immediately before these catamenial periods the patient suffers from more or less general malaise, languor, and heaviness, is indisposed to exertion, and is sensible of some amount of ovarian tenderness or sense of fulness therein, together with pain in back and loins, occasionally extending down the thighs. She complains also of uneasiness or sense of constriction in the throat or about the thyroid glands. In the great majority of cases there is at this time a peculiar dark or leaden facial hue observable, the discoloration being specially noticeable under the eyes. The patient's perspiration and breath have now a faint sickly odor. The mammæ become enlarged and tender to the touch or distinctly painful, digestion is deranged, the appetite is impaired or capricious, and there is more or less evidence of reflex sympathetic cerebro-nervous disorders, demanding serious consideration and treatment, the details of which will be fully discussed in a subsequent lecture on the nervous disorders peculiar to women.

Besides the nervous or hysterical disturbances just alluded to as frequently attending the evolution of menstruation at puberty,

the normal development of this function is liable to be interfered with in one or other of three ways,—namely, first, by amenorrhœa, which may present itself merely as a diminution or as a retention as well as a total suppression of the catamenial discharge; secondly, by dysmenorrhœa, or the difficult and painful accomplishment of this function; and, thirdly, by menorrhagia, or abnormal activity in the utero-ovarian, or Fallopian, changes connected with ovulation, and consequent excess in the resulting menstrual discharge. But, although the effects of these disorders are more marked during puberty than at any later epoch, these complaints are common to every period of women's reproductive vitality.

Amenorrhœa from Utero-Ovarian Structural Lesions.—Each and all of these menstrual disturbances are but symptoms of various disorders, to the recognition and removal of which primary attention should be given in such cases. Nevertheless, catamenial derangements, albeit symptomatic, very frequently assume such prominence and pathological importance as to overshadow and obscure other evidence of whatever may be the morbid condition of which they are the expression, and hence demand and properly receive separate consideration in every system of gynecology.

In the term amenorrhœa are included a number of distinct pathological conditions, dependent on widely-different structural and functional causes, of which the only common point is the absence, arrest, or diminution of the normal menstrual discharge. These results may be due to non-existence, malformation, or non-development of any of the parts concerned in the excretion of the catamenial flow, or else to their impaired functional action from disease or accident.

Thus, if the ovaries, Fallopian tubes, uterus, or vaginal passage be wanting, non-developed, or essentially impaired by any cause, congenital or acquired, the non-accomplishment of menstruation, or *emansio mensium*, is the necessary consequence. On the other hand, these parts being normal and menstruation having become established, it may be checked either by structural changes in their condition from local disease or injury, or by the influence of remote or constitutional causes on their functional activity, giving rise to arrested menstruation, or *suppressio mensium*, whether complete or partial.

The first-named cases, namely, those of *emansio mensium*, are

divisible into two categories,—incurable and curable. In the former are included all instances of complete absence of the ovaries, tubes, or uterus. In the second class may be placed the incomplete development or occlusion of any of these parts, and especially of the uterus and vagina, or even the complete absence of the latter.

It fortunately happens that amenorrhœa dependent on incurable causes is of such comparatively rare occurrence as to be included among the curiosities of long medical experience rather than among the complaints likely to come before you in ordinary practice. Nevertheless, as such cases occasionally crop up, as has here occurred in two cases of congenital absence of the ovaries and uterus, you must be prepared to recognize those abnormalities and thus avoid the possibility of any attempt to remedy conditions beyond the reach of our art. In cases where the abnormality lies in the congenital absence of the ovaries the patient's aspect and condition are much the same as those occasionally observable after a few years in some women who have undergone complete removal of the uterine appendages, or female castration, as a surgical operation,—viz., the mammæ are atrophied, the voice is harsh and void of the characteristic soft feminine modulation, the features are somewhat hard and masculine and more or less disfigured by hirsute appendages, and, lastly, on bimanual recto-abdominal examination the absence of the ovaries may probably be recognized.

The second or curable class of cases of structural amenorrhœa includes those instances in which the uterus is congenitally imperfectly developed or infantile, or in which it has become atrophied by disease in after-life, such as supra-involution, or where its vaginal orifice is either absent or occluded, together with cases of atresia of the vagina and vulva, whether congenital or acquired.

In instances of retained menstruation from such occlusions the presence of the distended globular uterus can generally be easily ascertained on recto-abdominal exploration, the necessity for which may in the first instance be gathered from the development of the external portions of the patient's genital system, and from the existence of the usual instincts and attributes of her sex, as well as from the periodic recurrence of a more or less painful menstrual molimen without any resultant discharge.

Treatment of Amenorrhœa from Infantile Condition of Uterus.
 —Galvanic and Stem Pessaries.—In the treatment of cases of

FIG. 239.



Simpson's galvanic stem.

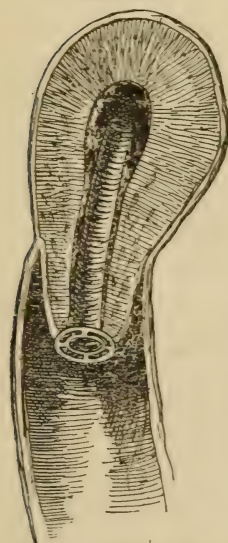
FIG. 240.



Barnes's galvanic stem.

amenorrhœa occasioned either by non-development or atrophy of the uterus, the inefficacy of any of the ordinary so-called emmenagogue remedies is self-evident, and the only measures that offer a rational expectation of benefit are those by which the direct stimulation of the abnormal organs can be effected. Of these methods I have myself employed but two with any advantage,—viz., faradization and the introduction of stem pessaries, either

FIG. 241.



Duke's spiral-wire stem
in situ after operation for
 stenosis.

FIG. 242.



Spiral stem.

in the form of Simpson's or Barnes's galvanic bimetallic stems, or else in that more recently suggested by Dr. Duke, of Dublin, for the purpose of maintaining the patency of the cervical canal after operations for stenosis, and which I have also found useful in those exceptional cases of amenorrhœa from imperfect uterine development in which I have

thought it safe to venture on the employment of any form of intra-uterine pessary. In such cases the instrument last referred to appears to me to possess the advantages of being both flexible and easy of introduction, whilst, if properly attended to and

cleansed, as is essential, by the daily use of the irrigator, affording exit to the uterine discharges.

Local Faradization.—In the larger proportion of the cases now under consideration, however, stem pessaries of any kind must be regarded as two-edged weapons, as potent for evil as for good, and apt, unless most cautiously and judiciously employed, to light up inflammatory conditions in the uterus and its adnexa, or to give rise to pelvic cellulitis. Moreover, when not kept properly open and aseptic, such instruments are liable to occasion retention of septic matters in the uterine cavity and consequent septicæmia. Hence in the treatment of amenorrhœa from incomplete utero-ovarian development or from an infantile condition of the uterus, as a rule, I prefer to resort to mild local stimulation of the undeveloped organs by the frequently repeated application of a weak faradic current passed directly through the uterus from the cervix internally to above the fundus or to the sacral region externally.

Massage.—In such cases some recent writers recommend “massage,” but that suggestion will, I trust, never become generally adopted. A great variety of complicated manœuvres are now included under this term, which is derived from the French verb *masser*, “to stroke,” by any modification of which process I am unable to see how the nutrition of a deep-lying organ, such as the uterus, can be permanently improved. Nor, indeed, even if that were possible, which I do not myself believe, would any local benefit remove my decided objection to the repeated and prolonged manipulations of the female genitals, now described as “massage” of those parts, and which I cannot but think extremely liable eventually to react injuriously on both the moral and the physical constitution of patients subjected to such procedures.

Obstructive Amenorrhœa from Occlusion of the Os Uteri.—Obstructive amenorrhœa, whether the cause be at the os uteri, in the vaginal passage, the hymen, or the vulva, and however thus originated, can obviously be remedied only by surgical treatment, —viz., by the removal of the physical obstacle and the subsequent dilatation of the passage until its patency be secured. Occlusion of the os uteri as a congenital cause of amenorrhœa is a very rare circumstance, but one which may be recognized and remedied in any instance in which the above-mentioned symptoms of menstrual retention unaccompanied by vaginal or vulval obstruction

present themselves. If, on physical examination, this lesion be found to exist, it may be relieved by making an artificial opening in the natural situation of the os, and maintaining the opening by subsequent dilatation. Acquired occlusion of the os, whether from cicatricial contraction of parturient lacerations or from the abuse of escharotics, is a much more frequent occurrence than the congenital form of this condition, and several instances of it have come under my observation, in all of which the resulting amenorrhœa was cured by restoration of the uterine orifice.

Amenorrhœa from Atresia of the Vagina.—The subject of amenorrhœa as a result of vaginal atresia is one of such great practical importance, and, as I think, so frequently misunderstood, that, although referred to in a previous lecture, some recapitulation of its symptoms and results, and of the operative measures here adopted in its treatment, is also necessary in this connection.

By the older writers generally, amenorrhœa dependent on congenital atresia of the vagina was regarded as incurable, inasmuch as they believed that the vaginal malformation was necessarily accompanied with absence of the uterus and its appendages, and hence that such cases were beyond reach of surgical aid. Since the celebrated case reported by Amussat of successful formation of an artificial vaginal passage, many other cases have, however, been recorded in disproof of former views concerning the necessary connection between utero-ovarian and vaginal developmental abnormalities, and of some of the cases of this kind that have occurred in our hospital an account has been given in my lecture on atresia of the vagina.

Treatment of Amenorrhœa from Atresia of the Vagina.—The expediency of operative treatment in cases of amenorrhœa due to vaginal atresia is dependent on the presence or absence of the evidences of menstrual retention or hæmatometra in each instance. In such cases, by a properly-conducted recto-vesical examination,—i.e., the introduction of the sound in the bladder and of the finger in the rectum,—we may readily ascertain the extent of the vaginal malformation or imperfection; whilst the condition of the uterus and its appendages can in like manner be exactly mapped out under chloroform by a conjoint recto-abdominal exploration, the results of which will be further elucidated

by the history of the case, the occurrence of menstrual *molimina*, and the development of the external sexual parts and mammæ. If these all point to the existence of hæmatometra dependent on non-development or obliteration of the vaginal passage, there can be no question as to the imperative necessity of operative interference. The method by which this may be successfully accomplished has been sufficiently exemplified in the history of the cases to which I have before referred, and need not be here again detailed. The points to which I desire, however, particularly now to direct your attention are, first, the importance of an early diagnosis, so as to anticipate and prevent the occurrence of hæmatometra to any extent that might lead to the rupture of the distended uterus or tubes; secondly, the paramount necessity, in all instances of operative interference of this kind, of securing the permanent patency of a sufficient passage for the free external escape of the menstrual fluid, and thus obviating its possible intra-peritoneal extravasation through the Fallopian tubes, an accident of which many instances are on record, and which is of special importance as a cause of pelvic hæmatocele. In cases of amenorrhœa connected with congenital vaginal atresia we have, therefore, in determining the expediency of operative treatment, not only to bear in mind the possible absence of the utero-ovarian organs, which may be confounded with the vaginal abnormality, but also, where the latter alone exists, to weigh carefully on the one hand the relative dangers of an uncured and increasing hæmatometra, and on the other the risk that may attend the attempted formation of a new vaginal passage. In that operation, as I must again remind you, no little care is required whilst thus making a channel through the cellular interspace between the rectum and bladder, even with the blunt instrument or finger (which should be used in preference to the knife for this purpose), to avoid injuring one or the other of these parts. Nor is it by any means always easy then to strike the cervical portion of the distended and globular uterus, or subsequently to maintain the permanency of the new canal.

The treatment of amenorrhœa in connection with acquired complete atresia or obliteration of the vagina, having been sufficiently discussed in an earlier portion of this course, need not be again referred to. I may, however, repeat that these causes of

amenorrhœa are more commonly met with as the result of puerperal endo-colpitis than seems generally recognized. And the same remark applies to those not unfrequent instances of partial obliteration or cicatricial occlusion of the vagina from disease or accident, several of which, giving rise to such an impairment or diminution of menstruation as to be included within the subject of the present lecture, have here recently come before us in gynæcological practice.

Functional Amenorrhœa.—The organic or structural abnormalities by which the due evolution of the menstrual function at the usual age of puberty may be prevented having been now sufficiently referred to, we must in the next place consider those far more frequent and remediable cases of amenorrhœa in which we have to deal primarily with the retardation, diminution, or arrest of the catamenia, before the menopause.

Retardation of Menstruation.—I have already observed that in some instances the first appearance of the menses, instead of occurring at the customary epoch of puberty, is delayed for several years without any apparent evidence, local or general, of impaired health. Nor until such symptoms present themselves is the non-appearance of the menstrual secretion, *per se*, a matter which demands our special attention. Most commonly any long retardation of this function is consequent on, and accompanied by, some constitutional disorder; and, moreover, its subsequent arrest, when not consequent on impregnation, is also more frequently connected with impairment of the general health than with any local cause. Of these constitutional derangements the most important as the occasion at the period of puberty of retardation of menstruation is chlorosis, whilst in its subsequent diminution or arrest the most frequent general causes are phthisis, acute inflammatory or febrile diseases, sudden nervous shock or depression, exposure to cold, privation, and anæmia from whatever cause it may result.

Among the local causes of the common forms of amenorrhœa to be now referred to may be included the various flexions of the uterus, acute uterine atrophy, or supra-involution, inflammatory changes in the ovaries or tubes, and peri-uterine disease leading to local exudations, such as pelvic hæmatocele. It would be easy, but of little practical avail, to enlarge the list of disorders whereon catamenial suppression or diminution may be dependent. Con-

cerning these it will here suffice to observe that in all such cases our successful treatment of the functional suppression must be consequent on the primary recognition and removal of whatever disorder the menstrual derangement may be symptomatic of. Putting aside, therefore, for the present, the further consideration of those constitutional or local causes of amenorrhœa which are described in other parts of this course, we now come to what may be described as primary amenorrhœa, in which we have to deal directly and chiefly with the pathological diminution or arrest of menstruation, or simple amenorrhœa.

Treatment of Retardation of Menstruation.—A large proportion of the catamenial troubles brought under notice in this hospital are connected with the retardation or diminution of this function at the usual period of puberty. It may be here observed, however, that very exaggerated importance is popularly ascribed to the non-appearance of menstruation at the customary age of its first manifestation, as well as to its interruption or diminution, as the supposed general causes of nearly all the ills to which female youth is subject. In the great majority of such cases you will, however, find that, as I have already said, these functional irregularities are merely symptomatic of general morbid conditions, to the rational treatment of which by appropriate constitutional remedies, rather than to any—generally futile and possibly injurious—attempted stimulation of the latent utero-ovarian function, either by so-called emmenagogues or by local measures, should the efforts of the physician be directed. Thus, if the patient is anæmic, the various preparations of iron are obviously indicated; if, on the contrary, she be plethoric, and subject to headaches and flushing of the face, a light dietary and alterative or saline medicines must be prescribed. Should, however, these means not be effectual, slight utero-ovarian and mammary stimulation by mustard poultices to the hypogastric regions, breasts, and inner part of the thighs, warm hip-baths and foot-baths at bedtime, or the occasional application of a few leeches to the vulva or anus, at intervals corresponding to the monthly epoch, will generally prove sufficient to excite the activity of the retarded function.

Treatment of Simple Functional Amenorrhœa.—Advantageous as you will generally find the plan of treatment already described

in those ordinary cases of retardation or diminution of the catamenial flow so frequently observable about the age of puberty, nevertheless, in many instances even of apparently simple functional amenorrhœa, and more especially in those at a later period of life, this complaint is most difficult to deal with satisfactorily by any of the countless methods suggested for its treatment. These may be divided into two classes,—namely, first, the employment of any of the so-called emmenagogue remedies, or drugs to which a specific power or property of exciting utero-ovarian action has been ascribed ; and, secondly, the direct topical stimulation of those organs by any form of electricity or galvanism, or the use of stem pessaries, cervical irritation, by scarification or cupping, and other local measures.

Emmenagogues.—With regard to the numberless remedies which are still generally described under this name, and to which specific utero-ovarian action, or power of stimulating the menstrual flux, has been ascribed, if I followed here the list of nostrums so included, even by some recent writers, it would be about as lengthy and profitless reading as Homer's "Catalogue of the Ships;" whilst, if I were to restrict my mention of them to those which I have myself found effectual, the enumeration would be about as brief as the Scandinavian author's chapter "On the Snakes of Iceland," which consisted of the terse sentence "There are no snakes in Iceland," for in like manner might I say there are no true emmenagogues, either in the pharmacopœia or out of it.

Nevertheless, in that strange farrago of drugs possessing the most opposite properties that have been or are regarded as remedies for amenorrhœa, there are unquestionably some which, though not actually emmenagogues, yet by their constitutional effect on the vascular and nervous systems, or by their local action on the lower intestinal tract and adjoining viscera, frequently act powerfully, if not directly, as irritants or stimulants on the utero-ovarian organs, especially in cases of simple amenorrhœa associated with general debility and anæmia. Among the remedies from which I have thus experienced beneficial results in the treatment of such cases, the most effective are borax, which may be given in twenty-grain doses, largely diluted, two or three times a day ; aloin, in the form of tabloids containing one-tenth of a grain, twice daily ; or the older-fashioned preparations of aloes, and more especially

the pil. aloës cum myrrhâ, in ten-grain doses, as often. Together with whichever of these medicines be so employed may, in most instances of this kind, be conjoined the use of some of the ferruginous tonics and quinine, or tincture of nux vomica; whilst in other cases alteratives, such as minute doses of iodine, or bichloride of mercury, or some of the milder preparations of arsenic, such as Fowler's solution, are as obviously indicated and will be found equally serviceable in improving those abnormal constitutional conditions with which it cannot be too often repeated that functional amenorrhœa is generally connected and of which it may be commonly regarded as but a consequence.

In extern hospital practice, where it becomes necessary to give consideration to the cost as well as to the efficacy of the medicines given, I have found the following formula generally satisfactory in the treatment of the amenorrhœal troubles of those ill-nourished, anæmic, or chlorotic girls who form the great bulk of the cases of this kind that here come before us:

R Liquor. arsenicalis (Fowler's), ℥j;
 Tincturæ nucis vomicæ, ℥ij;
 Tinct. capsici, ℥j;
 Glycerini, ℥ss;
 Decoct. aloës comp., ℥iv;
 Misturæ ferri aromat., ad ℥x.
 M. Sumat coch. mag. bis vel ter in die.

In similar cases of simple amenorrhœa occurring in private practice we have an abundant choice of more palatable and equally effective preparations of much the same character. Of these I most frequently prescribe in such cases that excellent combination of tonics known as Fellows's syrup of the hypophosphites, or Dusart's syrup of phosphate of iron, or Blanchard's pil. ferri iodidi, especially in those instances in which, for any reason, our patients cannot avail themselves of the most effectual of all the remedies of this class, namely, the use at its source of some chalybeate mineral water, such as Schwalbach, Spa, Ems, or Tunbridge Wells.

Of the more modern remedies recommended as emmenagogues, the black oxide, or dioxide, of manganese is probably that from which the most benefit may be expected in the cases now referred to, in which, according to Drs. Ringer and Murrell, the menses

usually appear in a few days after its administration; whilst Lauder Brunton and other recent writers speak no less favorably of its potency. This remedy may be readily administered in two-grain tabloids, which may be taken immediately before or after meals. Apiol and permanganate of potash, which have been much lauded as specifics for amenorrhœa, have in my hands proved entirely useless in its treatment; and lastly, as to the suggested employment of ergotine, I can only say that I should feel it very difficult to reconcile it with my duty as an examiner to accord a pass-mark to any candidate who relied in the treatment of arrested or diminished menstruation on a remedy, the direct effect of which is to stimulate the muscular contractility of the uterus, and thus to check hemorrhagic discharge therefrom.

Vicarious Menstruation.—The suppression or arrest of the normal catamenial flux is not infrequently productive of, or followed by, the periodic occurrence of hemorrhagic evacuations from other parts of the body, especially from the mucous surfaces of the alimentary or respiratory tracts. Thus, of the few instances of this kind observed in our hospital, in one the vicarious periodic hemorrhage proceeded from the bowels, in another from the stomach, in two from the lungs, and in one from the nostrils. In all such cases the diagnosis must be arrived at from the absence of those symptoms that would probably be connected with the hemorrhage were it occasioned by other local or constitutional causes, if not vicarious, and by the coincidence therewith of the menstrual molimen, in cases of amenorrhœa.

These vicarious discharges, especially when very profuse, may take place at one menstrual epoch only, or may continue to return for years, before being, as is nearly invariably the case, terminated by the establishment or return of normal menstruation, except in those instances in which they are connected with its final cessation. With regard to the treatment of vicarious menstruation, nothing remains to be added to what has been already said with reference to the treatment of amenorrhœa, on the subsidence of which, if curable, the irregular symptomatic evacuations will disappear.

Before concluding this subject I must utter a word of caution as to the danger of confounding the amenorrhœa of disease with that of pregnancy, in any case in which, from the patient's age, that condition is possible. This caution is necessary under all such

circumstances. In no instance of amenorrhœa, therefore, should the possibility of pregnancy be excluded from consideration before prescribing for this complaint. Nor should we ever allow ourselves to be persuaded into ordering so-called emmenagogue remedies by any statement of the patient, if within the child-bearing period of life, and no matter what her social position or personal reputation may be, until that statement has been corroborated by our own conviction, founded on sufficient inquiry and examination, that she is not pregnant. This point is one of such importance that I must again refer to it in a subsequent lecture.

Amenorrhœal Leucorrhœa.—Leucorrhœa was absurdly regarded by the older writers as being in some instances vicarious, or taking the place of the suppressed catamenia. Thus, Dr. Freind speaks of “lymph-like menses;” Astruc states that “leucorrhœa takes the place of the menses;” and Nauche says that this is “a salutary effort of nature, and to be respected.” The latter mentions that he was called to see a young lady, aged twenty-four years, of a strong constitution, who had never menstruated. Instead of the catamenia, there was secreted every month a quantity of white opaque mucus, which appeared to answer the purpose very well. Dewees also refers to this class of cases as “instances of slow development or vicarious secretion.”

Unquestionably amenorrhœa is frequently accompanied by profuse leucorrhœa, which, in some cases, assumes an apparently increased intensity at what should be the menstrual periods. But to include such cases, under any circumstances, in the category of what has been described as vicarious menstruation is an error which now requires no refutation, the leucorrhœal secretion being merely symptomatic of any disease on which the amenorrhœa may be consequent, and on the removal of which the suppressed functional discharge will recur. Nothing need, therefore, be said in this connection as to the treatment of the “whites,” about which women suffering from menstrual suppression or diminution so frequently consult us, further than to observe that when this symptom is specially troublesome or continues for some time after the restoration of the catamenia it may generally be effectually removed by the use of tonics and purgatives, conjointly with no more active local treatment than the daily employment of plain hot water vaginal irrigations, or, still more effectually,

by what has been described as "the dry method," viz., by the local application of boric acid, which may be best introduced by the insufflator into the vagina.

LECTURE XXXVII.

DYSMENORRHŒA.

GENTLEMEN,—Dysmenorrhœa, or the painful and difficult accomplishment of the menstrual function, if not the most frequent of all the complaints connected therewith, is unquestionably that which, in the earlier menstrual epochs at least, is most frequently brought under gynæcological observation. For whilst many women may suffer from amenorrhœa for months, or in some cases even for years, before medical advice is sought, few, if any, can long endure the periodically recurrent tortures of well-marked acute dysmenorrhœa without seeking some relief. Hence it is that so large a proportion of our patients here, married and single, consist of those suffering from difficult or painful menstruation. This complaint, being connected in different instances with distinct pathological conditions, has been subdivided, in accordance with the theories of those by whom it is described, into certain classes or forms. Of these arrangements the following is practically the best for clinical purposes,—viz., firstly, nervous or spasmodic, secondly, obstructive or mechanical, and, thirdly, congestive or inflammatory dysmenorrhœa.

Of all the disorders of menstruation none are of greater importance than this, not merely from the frequent intensity of the immediate suffering, and the complexity of the reflex nervous and constitutional disturbances thus occasioned, but also from its direct bearing on the possible fecundity of the patient. "It has been often stated," says Laycock, "that women can become pregnant whilst this disposition to dysmenorrhœa exists. But this is far from being correct, and, even if pregnancy should occur under these circumstances, patients are particularly liable to abortion at a very early period, which abortions have been supposed to be merely unusually aggravated attacks of the complaint." Nor

again, as has been repeatedly asserted, is pregnancy a cure for previously existing dysmenorrhœa, either hysterical or dependent on uterine displacements, unless by great care and management the first two or three months are safely passed over.

Symptoms of Dysmenorrhœa.—Before describing the different forms of dysmenorrhœa we may refer to the general characteristics of this complaint, some degree of which is almost invariably attendant on the first catamenial periods. These symptoms consist, first, of local pains from the expulsive and contractile action of the parts from and through which the menstrual discharge is then evacuated, and, secondly, of the constitutional or reflex cerebro-nervous derangements connected with any disturbance in the functional evolution of the female sexual or reproductive system at that epoch. In the majority of instances this period is preceded for some time by evidences of hysterical or nervous disorders, varying in extent in accordance with the cause of the menstrual difficulty in each case; which, moreover, generally is accompanied with more or less febrile excitement, gastro-intestinal derangement, headache, cardialgia, and palpitation. Of the local symptoms forerunning or accompanying the menstrual epoch in cases of dysmenorrhœa, the most common is a sense of obscure pelvic discomfort, or fulness, or what patients describe as a bearing-down sensation; together with hypogastric or ovarian, dull, aching, dragging pain, extending thence down the thighs. The actual commencement of the catamenial flux in such cases is marked by spasmodic uterine contractile or grinding pains very similar to those of the first stage of labor, and often fully as severe, if not more so, the patient in some extreme instances during their continuance writhing in convulsive agony until “the screwing cervical pain” becomes diminished by the gradually increasing flow of the menstrual discharge. This, in such cases, is at first scanty and with difficulty evacuated through the generally contracted uterine orifice, and is commonly abnormal in character as well as in amount, being either dark and clotted or intermixed with membranous shreds. After a day or two the flux becomes more profuse, and the pain gradually passes off before the termination of the first difficult catamenial period, which may possibly be followed by the spontaneous and permanent cessation of the dysmenorrhœal troubles of early menstruation. Unfortunately, how-

ever, in a large proportion of instances the symptoms just described continue to return with increasing intensity at each succeeding menstrual epoch, rendering the patient's life miserable from the anticipation or the presence of this monthly-recurring period of suffering, and demanding active gynæcological assistance.

General Treatment of Pain during Menstruation.—Premising that, like every other disorder of menstruation, dysmenorrhœa is a symptom and not a disease, in its treatment our attention should in the first place be directed to the recognition and removal of the cause on which the periodic difficulty is dependent. There are, nevertheless, certain therapeutic indications common to every form of painful menstruation, and some remedies frequently found serviceable in the relief of the menstrual suffering in such cases, which may be here referred to. The first of these is the mitigation of the local symptoms by hot-water vaginal irrigations or syringing; or, as I have found still more effective, by the injection of water as hot and in as large quantities as can be tolerated into the rectum two or three times a day whilst the pain is severe, so as to distend the lower bowel, through the wall of which it acts as the most direct local sedative or fomentation that can possibly be applied to the seat of utero-ovarian pain. If this be not thus sufficiently relieved, however, we should fall back on some of those old-fashioned remedies for this purpose, the *modus operandi* of which may be inexplicable, but the utility of which I have seen proved in numberless cases in my practice during the past quarter of a century, such as the tincture of guaiacum, which may be suspended in mucilage, or given in syrup, in twenty-drop doses, frequently repeated, until the pain is relieved. Or, in some cases of this kind, you may employ with advantage one or other of the newer analgesics, of which I have found phenazone, in ten-grain doses two or three times a day, the most effectual; or you may direct the use of vaginal suppositories with belladonna or cocaine; whilst if the complaint be connected with a rheumatic diathesis, salol in five-grain doses internally or in the form of suppositories locally will often afford relief rapidly. In many instances, however, all these fail, and we must resort to more certain sedatives, one of the best of which is that relied on in such cases by the late Dr. Churchill, viz., tincture of cannabis indica, or opiates and morphia, whether by hypodermic

injection, by the mouth, or by suppositories it matters little; or we may try the viburnum compounds, which unquestionably often afford relief from dysmenorrhœal pain; or you may prescribe a combination of antispasmodics and sedatives, such as the following, which I have found much benefit from in instances of spasmodic dysmenorrhœa:

R Tincturæ capsici, ℥ii;
 Tinct. camphoræ co., ℥i;
 Tinct. valerianæ ammon., ℥ss;
 Potassi bromidi, ℥ss;
 Spts. lavandulæ co., ℥i;
 Aquæ chloroformi, ad ℥iv.
 M. et fiat mistura.

Sig.—One dessertspoonful every three or four hours until pain is relieved.

Castoreum as a Remedy for Dysmenorrhœa.—Castor, in the form of a tincture, the chief properties of which are its offensive smell and taste, being otherwise comparatively inert, has recently been resuscitated as a remedy for menstrual pain. The very disgusting substance from which this tincture is prepared—viz., the preputial follicles and secretion of the beaver—was much in vogue as an antispasmodic in uterine and other complaints so far back as the days of Van Swieten and De Haen. Its use in such cases was obviously then founded on the ancient “doctrine of signatures,” or belief that every medicinal substance indicated by its external form, or by the source whence it was obtained, the diseases for which it was a remedy. Therefore, in olden times, a patient suffering from pulmonary disease, for instance, was ordered the lung-tissue of a fox in powder; or turmeric, having a yellow color, was given as a remedy for jaundice; or euphrasia (eye-bright) was prescribed in ophthalmic complaints. So, in like manner, and on grounds equally rational, castor, being procured from genital organs, was administered for diseases of the female organs of generation. Such, gentlemen, was the remote origin of one of the remedies which in these closing years of the nineteenth century has been again seriously recommended *ex cathedra* for the relief of some forms of dysmenorrhœal pain, and my opinion of the value of which I shall leave you to infer from the foregoing observations.

Dysmenorrhœal Alcoholism.—From this reference to the reme-

dies employed for the relief of ordinary dysmenorrhœal pain, and especially in the spasmodic or nervous form of the disease, cannot be omitted some allusion to the duty which devolves upon the attending physician of warning his patients against the dangers resulting from the too general abuse of alcohol, which is so commonly resorted to in the popular treatment of such cases. As a result of this the drink-craving in women of all classes often dates from the painful menstrual period, when stimulants are wont to be forced by foolish mothers into the, at first, generally reluctant lips of their daughters. Once, however, the pain of dysmenorrhœa has thus been relieved, the girl at the next epoch of suffering naturally, and no longer unwillingly, seeks similar solace, which is again and again repeated in increased doses to produce the desired effect, until finally the victim of dysmenorrhœal alcoholism may become an habitual and incurable drunkard.

I must now direct your attention somewhat more fully to the distinctive characteristics and special treatment of each of the before-mentioned forms of painful menstruation, commencing with that which I believe to be the most frequent and important.

Obstructive Dysmenorrhœa.—With regard to this subject I may observe that my clinical experience of painful or difficult menstruation has led me to conclusions decidedly at variance with those expressed by some writers thereon. Thus, in one recent contribution to the literature of this question,¹ it may be noted that the author is entirely sceptical of the influence heretofore generally—and, as I hold, rightly—ascribed to mechanical obstruction, from flexions of the uterus or from stenosis of the cervical canal, in the common causation of dysmenorrhœa. “It seems to me,” says he, “that, had the facts as regards flexions, stenosis, and the uterine circulation been ascertained before propounding a theory, the mechanical theory of dysmenorrhœa could never have been propounded.” “It is also true,” he remarks, “that what is true is generally simple. But the converse—what is simple is generally true—by no means holds; and the mechanical theory seems to be an instance of such logic.” In the lectures from which these conclusions are briefly cited we have, I think, some evidence

¹ Harveian Lectures on Painful Menstruation, by F. H. Champneys, M.D., London, 1891.

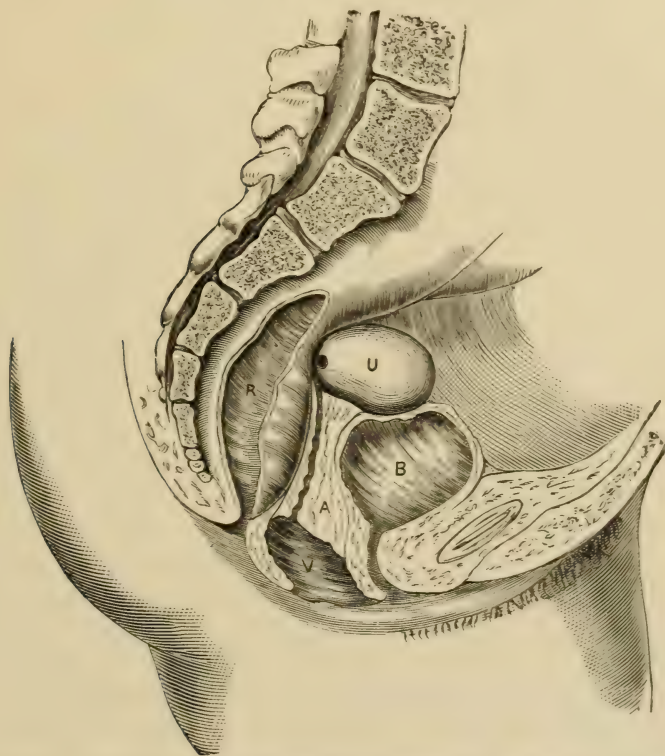
that Dr. Champneys's own logic is not altogether free from the fallacies which he attributes to the supporters of the mechanical theory of dysmenorrhœa which he so strenuously rejects. Without, however, here attempting to discuss that question, I may at least say that concerning the frequent occurrence during menstruation of pain arising directly from obstructive causes, his opinion and mine are totally different. In many hundreds of instances patients suffering from dysmenorrhœa have come under my care, in this hospital, in whom on careful examination no other cause could be discovered for the symptoms complained of than the existence of stenosis of the cervical canal or, in some instances, its partial constriction by a flexion. Further, in the great majority of such cases the operative treatment of the stenosis or the rectification of the flexion was followed by the complete and, as far as I could ascertain, permanent cure of the dysmenorrhœa.

Therefore, unless Dr. Champneys, or some one else, can offer a more logical explanation of these facts than that to which my, possibly illogical, mind leads me,—namely, that in those cases the cause of the patient's monthly suffering was obstructive dysmenorrhœa, and that its cure was effected by the mechanical or operative measures employed,—I must continue to adhere to my own opinions and practice. These I would also advise you to act on, at least until you may obtain some proof, if any can be afforded, that the doctrines of those who teach otherwise are founded on larger clinical experience and more accurate observation, or have led to more successful results than you have witnessed from the methods of treatment adopted in such cases in my wards. Relying, therefore, on what I have thus seen at the bedside, I shall now endeavor to put my views on this subject briefly before you.

Of all the causes of difficult or painful menstruation, whether at the earlier catamenial periods or in later or married life (and then also of the coexisting sterility which is generally present in dysmenorrhœal cases, and for which we are so frequently first consulted in such instances), by far the most common, as well as the most curable, is obstruction of the cervical canal. Nor is there any disease daily met with in our branch of practice which until relieved by effective treatment may give rise to more persistent and periodic recurrence of suffering, or which—when unrecognized as to its actual character and, as is too often the case,

treated by mere placebos, and in those cases equally ineffectual antispasmodics, or else by opiates and other sedatives—may produce more serious ill effects on the general health, and especially on the cerebro-nervous system of the patient, than this. Hence

FIG. 243.



ATRESIA OF VAGINA, WITH ANTEVERSION OF UTERUS (R. Barnes).—R, rectum; B, bladder; V, cul-de-sac at vulva; A, dense tissue in place of vagina, traversed by a narrow fistulous tract.

the necessity in all cases of persistent dysmenorrhœa, when not obviously merely of either a nervous or a congestive character, of careful local exploration and the use of the sound, if not specially contra-indicated, by which the existence and cause of any uterine obstruction to the menstrual flux may be ascertained.

Causes.—Obstructive dysmenorrhœa may result, first, from stenosis, congenital or acquired, of any portion of the cervical canal; secondly, from some degree of constriction of the canal

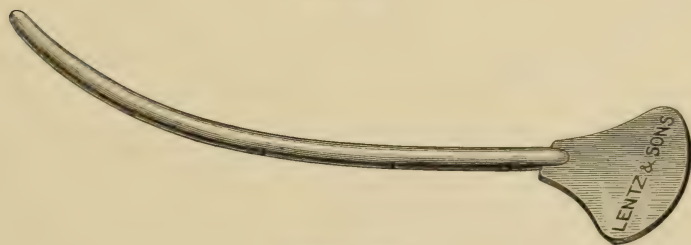
by an acute flexion of the uterus, or from the pressure of a uterine tumor ; thirdly, the patency of this channel may be hindered by an inter-cervical neoplasm ; and, fourthly, painful menstruation may be occasioned by stricture of the vaginal passage. The conjoint influence of a uterine flexion, or displacement, together with a vaginal canal so narrow as to be a mere fistulous passage permitting only of the imperfect escape of menstrual fluid, or what was formerly termed "stillicidium mensium," has been well illustrated by Dr. Barnes in the sketch, Fig. 243. In the great majority of cases, however, this complaint is consequent on simple congenital stenosis of the cervical canal, or on its partial occlusion by exudations resulting from endo-cervicitis or other local disease. The next most common causes of obstructive dysmenorrhœa are the various flexions already described. The frequency of the first-mentioned causes of dysmenorrhœal suffering is far greater than is commonly supposed ; thus, as I stated in a memoir read before the International Medical Congress at Berlin, nearly eleven per cent. of instances of obstructive dysmenorrhœa, or of sterility similarly caused, had been observed in a total of seven thousand gynæcological cases treated in this hospital.

Symptoms of Obstructive Dysmenorrhœa.—I need not here enlarge on the symptoms of obstructive dysmenorrhœa, the general features of which are similar to those described in the previous account of the common symptoms of painful menstruation, modified, however, in these cases in accordance with the special causes and extent of mechanical obstruction present in each instance. To that account I have, therefore, only to add that in the cases now under consideration the existence of obstruction, whether from stenosis, flexion, or pressure, may be commonly inferred from the character of the pains attending the uterine efforts to overcome the mechanical obstacle to the catamenial flux, these being then extremely similar to the grinding or cutting pains of the first stage of labor and often hardly less intense than the throes of parturition rendered difficult by rigidity of the os uteri. Moreover, under such circumstances we are very likely to have extension of the resulting irritation from the uterus to the Fallopian tubes and ovaries. After a variable period of suffering at each monthly epoch, the obstruction is at last, at least partially and temporarily, overcome and, the dysmenorrhœal dribble being

succeeded by a generally abnormally profuse or hemorrhagic discharge, the patient's troubles in this way are over for the moment. In some instances, however, the obstruction proves more intractable, and the pain continues until the catamenial flux has completely ceased. Or the uterine action may force the retained menstrual fluid through the Fallopian ducts and so possibly give rise to pelvic peritonitis and hæmatocele.

Treatment.—In cases of obstructive dysmenorrhœa it is obvious that the only rational course of treatment is the removal of whatever may be the mechanical or other obstruction to the escape of the menstrual flux, and that in such cases no curative effects can possibly be expected from the employment of antispasmodics, sedatives, or other drugs, however useful they may be as palliative agents. Thus, for instance, if the catamenial pain be connected with an acute uterine flexion, the dysmenorrhœa will not be cured until the malposition is rectified; or if it be occasioned by the pressure on the cervix of any tumor, this must in the first place be removed or at least pushed up above the pelvic brim if possible. In like manner, in those far more numerous cases in which the menstrual difficulty arises from congenital cer-

FIG. 244.



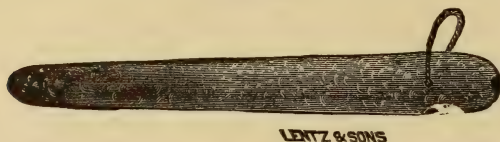
Hegar's dilator.

vical stenosis this must be overcome by mechanical dilatation before we can hope to remove the consequent catamenial suffering.

I need not here again refer to the improved methods by which have been happily replaced the painful, tedious, and oftentimes hazardous plans of gradual dilatation with sponge, tupelo, or laminaria tents which until a few years ago were the only resources available for the mechanical treatment of dysmenorrhœa arising from stenosis of the cervical canal. Few greater improvements

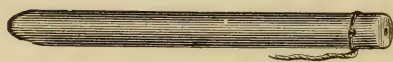
have occurred in our branch of surgery than the general substitution of those unsatisfactory appliances by the more effectual means

FIG. 245.



Sponge tent.

FIG. 246.



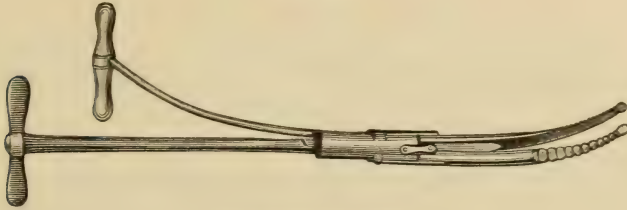
Tupelo tent.

at our disposal for the rapid expansion of this canal in such cases, to which I alluded in a former lecture. For this purpose in the cases now under consideration I myself employ the instrument heretofore shown (see Fig. 77, p. 160), and which I have now used with advantage in many hundreds of cases of obstructive dysmenorrhœa and sterility dependent on cervical stenosis. This instrument differs from others of a similar class in several respects, and especially in one which I consider most important,—viz., in producing expansion of the previously contracted canal from within outward; in other words, imitating the natural process of cervical dilatation during menstruation, from the uterine cavity downward to the os uteri; whereas, with the exception of Duke's, most other uterine dilators, such as Hegar's, etc., act in the opposite direction. I may add that the amount of cervical expansion effected by this instrument may be determined and accurately measured by the affixed index, and that the same dilator, which does not occupy more room or occasion greater difficulty in introduction than a large uterine sound, may also be used when a similar course is necessitated in dealing with the female urethra.

The same object may also be effected by the use of Duke's dilator, the shape of which, being conical like Tait's, but curved (in which it differs from his), makes it, he finds, easier of introduction by touch alone, and combines with this the additional advantage of divarication to the extent necessary to open the cervical canal sufficiently to admit the finger for exploration.

The cervix being steadied by either tenaculum hook or vulsellum, five drops of a five per cent. solution of cocaine are injected into the tissue at either side of the os, the needle being made to penetrate for half an inch at least. When sufficient time has elapsed

FIG. 247.



Duke's uterine dilator.

for the absorption of the cocaine, the point of the dilator, warmed and oiled, is then slowly introduced, either by touch alone or by sight, the duckbill speculum affording a good view. The dilator being made to penetrate by boring action till past the inner os, the screw at the end of the instrument is slowly turned, as when using the *écraseur*, steadying the dilator by holding the cross-handle at the side, and judging of the amount of force necessary to be used by the resistance offered to the turning of the screw. When the dilator is expanded to the required extent, it should be allowed to remain quietly for a minute or so, when the screw can be rotated in the opposite direction, when the blades will close by spring action, and, if preferred, they need not be allowed to close altogether before withdrawing the dilator from the cervix; thus the dilatation of the entire canal from within outwards can be secured. Very slight bleeding, as a rule, follows the operation, and a camel-hair pencil charged with a saturated solution of alum in glycerin is found by Duke to be the cleanest styptic. Turpentine can also be used with advantage, but he strongly objects to iron, as it hides the source of bleeding, and by forming clots gives rise to subsequent trouble. To keep the cervical canal patulous, Duke subsequently introduces one of his large-sized spiral-wire stems (Fig. 248), which he finds useful for preventing contraction of the cervical canal in cases of stenosis.

Immediately after the rapid expansion of the cervical canal in cases of obstructive dysmenorrhœa, the uterus should be washed

out, a hot boric solution injected, and a morphia suppository introduced. The patient must in all cases be kept in bed on low diet, and the womb syringed daily with hot water for eight or

FIG. 248.



Duke's spiral-wire stem and introducer.

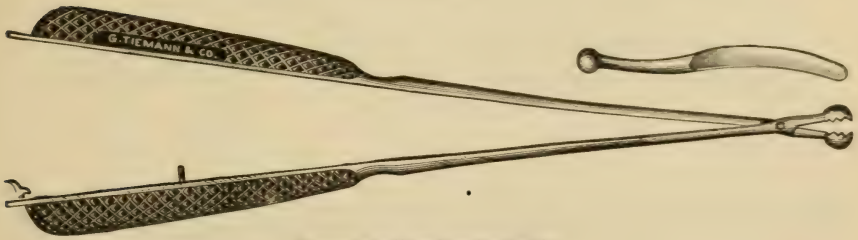
ten days, any pain being meanwhile treated by opiates and poultices. After this period a flexible tube or uterine stem pessary is introduced, which should be worn for another month, and then, not sooner, the patient, if married, may resume marital life with a fair probability, under ordinary circumstances, of subsequent impregnation and, generally speaking, almost absolute certainty of immunity from recurrence of obstructive dysmenorrhœa.

With regard to the result of this operation, my experience has been most satisfactory in the curative treatment of a large proportion of the cases of sterility and obstructive dysmenorrhœa that have come under my observation. This result I ascribe not merely to the thoroughness and asepsis with which the dilatation of the contracted passage is here carried out, but also to the careful selection of cases for its employment, and the care taken to prevent any danger of inflammatory or septic complications following this method of treatment in the cases referred to. When thus cautiously carried out in appropriate cases, no ill results are likely to attend this operation, but when the necessary precautions just mentioned during and after its performance are neglected, or when it is resorted to in cases where possibly unrecognized sub-acute uterine or peri-uterine inflammatory conditions exist, it may very readily give rise to troublesome and even dangerous complications, as I have seen proved in some instances of pelvic cellulitis and in two cases of death from septicæmia, in the hands of practitioners who, unfortunately, regarded this procedure as one so trivial as to require no special caution in its performance or after-treatment. But the risk of possible supervention of such untoward results from the treatment of stenosis is now, I think,

less than was the case before the adoption of the method of rapid dilatation just described.

In some exceptional cases, however, it is apparently impossible permanently to overcome the rigidity of the wall of the contracted passage by mere dilatation, and hence in those instances

FIG. 249.



Emmet's ball-and socket knife.

we are still obliged to resort to the use of instruments such as the metrotome, or the uterine knife; inasmuch as Küchenmeister's

FIG. 250.

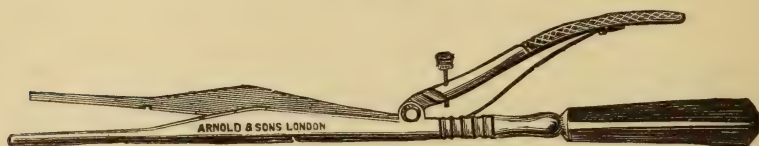


Küchenmeister's scissors.

scissors or other similar contrivances, although still employed by some gynæcologists for this purpose, are obviously useless in instances of obstructive dysmenorrhœa and sterility where, as is most commonly the case, the seat of stenosis is at the internal or uterine orifice of the canal. Of metrotomes there are now nearly as many varieties as there have been writers on the subject, although it would be somewhat difficult to recognize any practical improvement in some of the recent modifications of the three different forms of metrotome as originally suggested by Simpson, Peaslee, and Greenhalgh. The simplest and most readily em-

ployed of these instruments is, I think, Simpson's original single-bladed metrotome, the depth and direction of the incision made by which may be more easily determined than with any of the subsequent more complicated contrivances of the same kind. In

FIG. 251.



Simpson's metrotome.

FIG. 252.



Peaslee's metrotome.

FIG. 253.



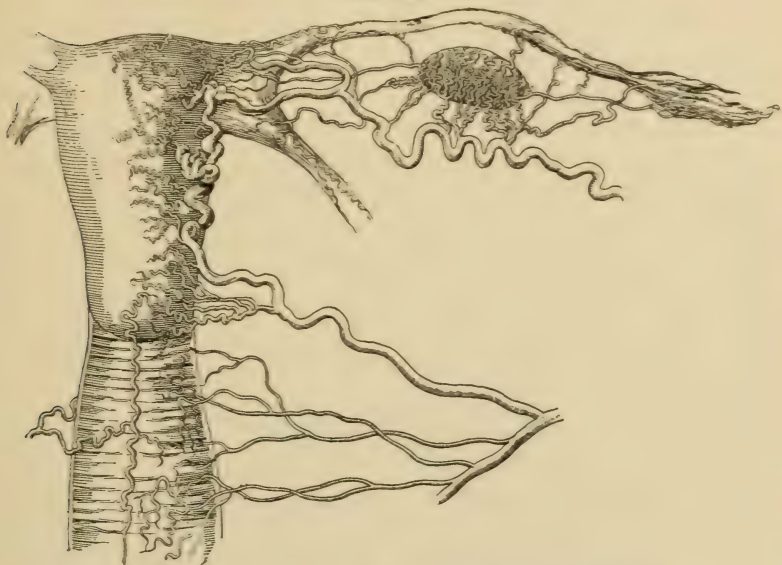
Greenhalgh's metrotome.

using any metrotome the surgeon should, however, always bear in mind the distribution, and so avoid as far as possible the course, of the vessels of the parts thus divided, as shown in the subjoined diagram (Fig. 254).

Congestive Dysmenorrhœa.—This is of special interest as a frequent result of chronic endometritis, and hence is more commonly met with later in life and in married women than the other varieties of dysmenorrhœa. In the congestive condition on which this form of difficult menstruation is consequent, besides the uterus and its appendages the other pelvic as well as abdominal viscera are usually more or less involved, as is particularly seen in the frequently engorged state of the portal circulations in such cases. In most of these instances the tumefied uterus is, moreover, to some extent displaced, either by ante- or retro-flexion or version, from the greater degree of congestive hypertrophy that may be developed in one or other of its walls, or else is forced down lower than its normal position in the pelvis by its generally augmented bulk and weight. In the same way the functions of the rectum

and bladder are interfered with, a certain amount of cystitis or vesical irritability or hemorrhoidal trouble being seldom absent in cases of this kind.

FIG. 254.



Distribution of ovarian, uterine, and vaginal arteries (Hyrtil).

Symptoms.—For a few days before the menstrual period the patient generally complains of some degree of lumbar pain and sense of uterine weight and bearing down, gradually developing on the approach of the change into acute localized, intermittent, pulsating pain and a persistent feeling of distention and discomfort in the hypogastric region. This steadily increases, and is followed by more acute and distinctly expulsive pains accompanied by a scanty menstrual discharge, which in many instances is intermixed with membranous shreds and clots. The flux then often abates or entirely ceases on the third or fourth day, and in some cases the discharge ceases for a day or so during the menstrual period and again returns in intermitting gushes.

Treatment.—To cure congestive dysmenorrhœa we must, in the first instance, cure the abnormal uterine condition or hyperæmia of which the menstrual difficulty is symptomatic, by those measures that have been fully described in my lecture on endometritis. In all such cases warm hip-baths and hot vaginal and rectal

douching are generally serviceable in the immediate relief of the catamenial pain, as in the same way are also the various special uterine and general sedatives to the use of which I have referred in connection with other forms of dysmenorrhœa, and need not here further allude. In the general treatment of congestive dysmenorrhœa it is of special importance to relieve abdominal and pelvic visceral congestion as far as possible by saline purgatives, such as a teaspoonful of Carlsbad or Glauber's salts in a half-tumblerful of hot water once or twice a day. And with the same object of diminishing as far as possible the hyperæmia of these and other organs, nothing appears to me more generally serviceable in such cases than the use of bichloride of mercury with iodide of potassium and bark, as in the following prescription :

R Hydrargyri bichloridi, gr. i;
 Potassi iodidi, ℥ii;
 Tincturæ cinchonæ comp., ℥ii;
 Aquæ caryophyllorum, ad ℥viii.
 M. et fiat mistura.

Sig.—A dessertspoonful in water three times a day.

In such cases local treatment must always be conjoined with the general remedies just referred to. In many instances, to unlock the uterine hyperæmia, free scarification of the cervix followed by the glycerin tampon and subsequent hot-water irrigations, if persevered in for some time, will prove effectual and should be fairly tried in the first place. In other cases, however, it will also be found necessary to resort to intra-uterine treatment by the dilatation of the cervical canal and the employment of the curette, by the use of which the diseased endometrium may be scraped away, whilst by the ensuing hemorrhagic discharge the local congestion may most directly be relieved.

Neurotic Dysmenorrhœa.—In early menstruation probably the most frequent form of dysmenorrhœa is that described as neurotic or neuralgic, and, moreover, in every variety of this complaint, at every age at which it may occur, the neurotic element to a large extent complicates whatever other cause painful menstruation may be dependent on. Hence the brief account which I have already given of the ordinary symptoms and general palliative treatment of dysmenorrhœal pain may be also applied to the

nervous or neuralgic types of this affection. However protracted, and for a time apparently intractable to remedial measures, as the course of this complaint may very possibly prove, nevertheless, in the vast majority of cases, dysmenorrhœal suffering is eventually curable by the judicious use of one or other of the methods of treatment which I have described. Nor in any recent instance of this kind have I thought it necessary or justifiable under such circumstances to resort to so extreme a step as the removal of the uterine appendages, which a few years ago was strongly advocated for the radical treatment of some cases of dysmenorrhœa, but which is now, fortunately, comparatively seldom if ever employed for that purpose, and hence need not be considered in this connection.

Ovarian and Tubal Dysmenorrhœa.—Besides the causes and forms of dysmenorrhœa already mentioned, the starting-point and seat of this complaint may in some instances be either ovarian or tubal. As, however, these varieties of painful menstruation have been noticed in my previous lectures on diseases of the Fallopian tubes and ovaries, I shall now, without further reference to them, pass on to the last of the more common or uterine forms of this complaint that are usually enumerated in the classification of its subdivisions.

Membranous or Pseudo-Membranous Dysmenorrhœa.—Membranous or pseudo-membranous dysmenorrhœa, to which attention was first called upward of a century and a quarter ago (in 1760) by Morgagni's observations on the frequency of membranous casts or shreds expelled from the uterus in the menstrual discharge of dysmenorrhœal patients, is still commonly described as a distinct and special form of dysmenorrhœa. This view appears to me erroneous, as these products—which, as Oldham and Bernutz long since showed, are composed entirely of the histological elements of the uterine mucous membrane, and ought consequently to be ascribed to a disturbance of the ordinary physiological moulting which the generative organs become the seat of at each catamenial period—are occasionally met with in typical instances of each one of the three forms of dysmenorrhœa—i.e., obstructive, congestive, and neuralgic—already described. Nor is the membranous exfoliation of such importance as a cause of painful menstruation as is commonly supposed. On the con-

trary, as Bernutz pointed out, the difficulty arises from the position of the detached uterine mucous membrane, especially the cervico-uterine portion of it. The dysmenorrhœal membrane floating about the cavity of the uterus may occasion temporary difficulty to the exit of the menstrual fluid, but could not give rise to so serious an obstruction as occurred in the cases adduced by the author cited, unless there coexisted defective dilatation of the cervix uteri. This view has not been displaced by any more recent observations, and in my own practice I have acted on it with advantage by dilating the cervical canal and curetting the endometrium in many instances of dysmenorrhœa.

LECTURE XXXVIII.

MENORRHAGIA AND METRORRHAGIA.

GENTLEMEN,—Menorrhagia, or a pathological increase of the catamenia, as well as metrorrhagia, or an intra-periodic hemorrhagic discharge from the uterus, may be here included together, though, being in the great majority of cases symptomatic of diseases which we have already sufficiently discussed, this subject need occupy less of our present attention than was devoted to other menstrual abnormalities. In some instances, however, the local menorrhagic trouble is so prominent and its causes are so obscure that the former demands distinct and careful consideration.

As I previously mentioned, the normal catamenial flow varies in amount from three to six ounces and extends over a period of from three to five days at each regularly recurrent monthly epoch, whilst any notable increase in the amount or even in the duration of that discharge constitutes menorrhagia. In the adjoining wards we have at present some instances of this very frequent complaint, and a brief reference to the clinical history of a couple of these cases may be the best introduction to the subsequent observations on the general etiology, symptoms, and treatment of excessive menstruation and metrorrhagia.

CASE I. *Congestive Menorrhagia from Subinvolution*.—C. N., aged forty, a farmer's wife from Kilkenny, was admitted Septem-

ber 20, eight months after the birth of her ninth child, suffering from endometritis and subinvolution, with excessive menstruation, her catamenial period lasting for over a fortnight, and leaving before its return an interval of only ten days, during which a slightly hemorrhagic uterine discharge continued until the next epoch. On examination, the uterus was found low down, retroflexed, and greatly enlarged, the sound passing nearly its entire length into the cavity. The cervical canal having been rapidly expanded with my dilator, the softened pulpy endometrium was thoroughly curetted, and the exposed uterine surface freely swabbed over with iodized phenol, which was again applied on subsequent occasions. The flexion was then reduced, a roller pessary introduced, hot-water intra-uterine irrigations were directed twice daily, and the following mixture prescribed :

R Liquor. ergotæ, B. P., ℥i;
 Tincturæ nucis vomicæ, ℥ii;
 Tinct. quiniæ, ℥ii;
 Aquæ cinnamomi, ad ℥viii.
 M. et fiat mistura.
 S.—℥ss ter in die.

In less than three weeks the uterus became nearly normal in size, the metrorrhagia completely ceased, and, the monthly period having passed over without any excessive loss, she was discharged from the hospital.

I need not enter on the details of some other ordinary cases of menorrhagia and metrorrhagia that were pointed out to you at the bedside in instances of uterine myoma, chronic endometritis, and uterine cancer now under treatment, the result of which is still undetermined. But I may take the opportunity of calling your attention to another case of this kind which appears to me of special interest from its exceptional gravity and intractability to the treatment employed.

CASE II. *Ovarian Menorrhagia*.—E. L., aged twenty years, unmarried, a shop assistant, who during the summer season had been under our treatment for menorrhagia, recently again presented herself at the dispensary in a worse condition than before; when admitted last week into the hospital she was in a state of extreme debility, and in fact almost exsanguine from profuse menorrhagia. This, as stated, had existed, though in a lesser degree, even from

her earliest menstrual epochs, but within the past two years had assumed a progressively increasing severity until the present time, when there is only a few days' interval between her catamenial periods, during which the discharge daily saturates half a dozen diapers, and has resulted in the condition evinced in her bloodless aspect, as well as by the intense anæmic frontal headache, extreme nervousness, physical prostration, cardiac palpitation, distressing aortic pulsations, and other symptoms of hemorrhagic loss, of which she now complains. On examination, the uterus was found somewhat congested and the left ovary enlarged to the size of a pullet's egg. Besides these local conditions, there was in this girl's family history evidence of an hereditary predisposition to menorrhagia, if not actually of the bleeder or hæmophilia diathesis, her mother and two sisters having all suffered, though in a less degree, from profuse hemorrhages from other organs.

When previously here under observation last summer, the symptoms described were relieved by the treatment then adopted, which consisted locally in counter-irritation with strong liniment of iodine, followed by inunction of oleate of mercury over the enlarged ovary and hot-water irrigations per vaginam and rectum each day. At the same time her constitutional condition was improved by the raw-meat *purée* here so frequently employed in the dietary of anæmic patients; whilst, in the way of medicine, iron, ergot, etc., were thus prescribed:

℞ Liquor. ergotæ B. P., ℥i;
 Tincturæ ferri mur., ℥ii;
 Acidi hydrochlorici diluti, ℥ii;
 Glycerini, ℥i;
 Aquæ, ad ℥viii.
 M. et fiat mistura.

Sig.—One tablespoonful in a wineglass of hot water three times a day.

On this treatment she remained for nearly three months, during which her general health was improved and the menorrhagia diminished. At the end of the summer session, when our dispensary was closed and the treatment suspended, the monthly hemorrhage gradually returned, until her condition has become what you have just seen. Under these circumstances, should all other means fail I may be obliged as a last resort to remove the uterine appendages in this case.

Constitutional and Local Causes of Menorrhagia and Metrorrhagia.—With regard to the general causes of the conditions now under consideration it must be borne in mind that these, as just exemplified, may be either constitutional or local. Among the former we may include general hyperæmia or plethora, together with diminished inhibitory nerve-force from alcoholism, and the consequent tendency to utero-ovarian congestion noticeable in women of intemperate habits. These symptoms may also arise indirectly from obstruction to the portal circulation in hepatic affections, and are commonly observed in connection with Bright's disease and other chronic renal disorders, or in the course or sequence of various febrile diseases, especially small-pox, measles, scarlatina, and typhus. Still more frequently, however, both menorrhagia and metrorrhagia are immediately due to local pathological changes in the uterus, ovaries, or Fallopian tubes. Of these the first-named organ is the starting-point of the complaint in nine-tenths of such cases, in which the excessive menstrual or intra-menstrual discharge may be traced to chronic endometritis and subinvolution, or else to the presence of submucous fibro-myomata or other uterine neoplasms, or to malignant disease of the uterus. Next to these the various flexions to which this organ is subject, and especially retroflexion, must be mentioned as among the common causes of menorrhagia, which may, moreover, be occasioned by any visceral congestion, or even functional obstruction, such as obstinate constipation, causing interference with the pelvic circulation. Lastly, we have to bear in mind that the ovaries, whence, as I still believe, the physiological changes by which normal menstruation is accomplished start, have their share in almost all the abnormalities of the catamenial function, and in none is this more manifest than in the frequent connection of menorrhagia with oöphoritis and with ovarian displacements or prolapse.

General Treatment of Menorrhagia and Metrorrhagia.—In dealing with either menorrhagia or metrorrhagia our primary consideration must be given to the causes, constitutional or local, of the hemorrhagic tendency in each instance. The former, however, are beyond the scope of gynæcological teaching, whilst with regard to the latter, to which we must now confine ourselves, I need here only again point out that, with respect to congestive

menorrhagia, for instance, we should endeavor to reduce the uterine hyperæmia by the treatment described in the lecture referring to subinvolution, and, above all, by thoroughly curetting the diseased endometrium, or, if the case be one of ordinary endometritis, by application of iodine or some other of the topical astringents and escharotics before pointed out. In like manner, in ovarian and tubal menorrhagia we must seek to subdue the abnormal condition of the appendages by hot baths, hot-water injections per rectum, mercurial inunction over the ovarian region, and the internal administration of iodide of potassium and bichloride of mercury, before having recourse as a *dernier ressort* to removal of the diseased appendages; whilst in the forms of hypermenstruation and metrorrhagia connected with uterine tumors either these growths must be removed or their vascular supply and activity must be diminished by oöphorectomy or by the employment of the faradic current. If the menorrhagia is due to uterine or ovarian dislocations, the rectification of these malpositions should be the first step in the treatment of the resulting excessive discharge.

Local Astringents, etc.—The use of vaginal astringents, whether in the form of suppositories or of injections of solutions of alum, sulpho-carbolate of zinc, perchloride or pernitrate of iron, tannic acid, etc., or by means of a vaginal tampon saturated with some astringent, is occasionally necessary for the immediate restraint of excessive menorrhagic or metrorrhagic discharge. The utility of such applications in this way is, however, at best only temporary, and they can never be regarded as in any degree replacing those measures which, as I have already said, are always essential for the removal of the cause of hemorrhage in each instance; and the same observation applies equally to all attempts to deal with such discharges by plugging either the vaginal or the cervical canal.

Internal Astringent Remedies.—The list of drugs recommended as effectual for the arrest of menorrhagia or metrorrhagia would occupy far more space here than would be warranted by my own experience of their utility, including all the mineral acids, acetate of lead, tannic or gallic acids, phenazone, and countless other drugs, my own faith in which for this purpose is extremely limited. It also, however, includes some remedies which I have

found of service in appropriate instances of the kind referred to,—viz., hazeline, or fluid extract of *hamamelis virginica*; extract of *hydrastis canadensis*, and muriate of *hydrastia*; as well as the older preparations formerly relied on in such cases,—namely, tincture of Indian hemp, which was advocated by Churchill, of Dublin; mercury, the value of which was clearly demonstrated by the late Dr. McClintock; and another ancient remedy, the use of which in cases of menorrhagia has recently been revived, viz., *digitalis*, originally suggested by Dr. Ferriar, of Manchester, as a hæmostatic, in the first volume of his “Medical Histories and Reflections,” published in 1810, and which was again recommended for uterine hemorrhages by Pereira, in his “Elements of Materia Medica,” in 1842. Of more general efficacy, however, than any of these in the treatment of menorrhagia or metrorrhagia are opium, *nux vomica*, muriate of ammonia, and, above all, ergot and turpentine, which last two I regard as the most valuable of all the remedies in the pharmacopœia in the arrest of hemorrhagic discharge from the uterus. Whichever of these may be employed, it is hardly necessary to add that its action should be supplemented by measures directed to the relief in these cases of any local intra-pelvic congestion by hot-water irrigations, saline purgatives, bromide and iodide of potassium, and abstention from marital intercourse.

PART VI.

CONSTITUTIONAL AND NERVOUS DISORDERS CONNECTED WITH MENSTRUATION, ETC.

LECTURE XXXIX.

CHLOROSIS AND OTHER CONSTITUTIONAL COMPLAINTS ASSOCIATED WITH COMMENCEMENT OF MENSTRUATION; DISORDERS OF THE MENOPAUSE.

GENTLEMEN, — The elective affinity of various diseases for different periods of life, and their connection with derangements of those special functions by the physiological development or decadence of which the successive stages of existence are distinguished, are especially evinced during female puberty in the anæmic and other constitutional disorders then so frequently associated with menstrual abnormalities. “Many, indeed, and serious,” as Laycock observed, “are the evils liable to be produced by external causes which check the development of that function.” So also, when established, if this function be disordered or irregular, a predisposition is given to various maladies affecting the blood-vessels and their contents, the secreting organs, and the nervous system. To the foregoing lectures on menstrual abnormalities must, therefore, be appended some account of the more important constitutional complaints which at different ages are especially prone to occur in connection with catamenial disturbances, and first among these a disease so intimately connected with, even if not actually dependent on, amenorrhœa as chlorosis demands special consideration in reference to the menstrual disorders of puberty.

Chlorosis.—Hardly a morning elapses at this clinic on which you are not brought face to face with a number of patients, from

fourteen to twenty years of age, in whose aspect you at once recognize the characteristic evidence of what the older writers aptly described as "greensickness," or chloro-anæmia, as chlorosis is now more properly termed, and which is popularly and justly regarded as the most frequent of all the morbid conditions specially incidental to female youth. This disease may be defined as a form of aglobulism generally associated with impaired menstruation,—i.e., amenorrhœa and dysmenorrhœa,—and primarily originating in some derangement of the ganglionic nervous centres. Moreover, the general history of such cases, their symptoms, and the line of treatment by which they may be cured, all point to the accuracy of Küchenmeister's conclusion, that one at least of the general causes of this complaint is the retention of carbonic acid in the blood of the chlorotic subject, arising in some measure from insufficient elimination by the menstrual flux. This view is supported by clinical experience in the out-patient department of the hospital, where our chlorotic patients are most commonly girls of the poorer class of seamstresses, servants, and others whose occupations are such as to lead to deprivation of fresh air, sunlight, and exercise, and in whom, therefore, by the consequent diminution of pulmonary exhalation, aided by arrested or diminished menstrual excretion, the blood is probably surcharged with carbonic acid as well as deficient in red corpuscles or hæmoglobin.

Symptoms of Chlorosis.—In addition to the characteristic yellow or greenish pallor of the patient's complexion whence that disease takes its name, chlorosis is marked by intense debility of the entire system and languor of mind as well as of body, the patient being as commonly thereby indisposed as incapacitated for any exertion of either, easily overcome by fatigue, nervous, low-spirited, and frequently a prey to hysterical singularities of temper, severe recurrent headache, vertigo, loss of memory, and disturbance of sleep. Her lips and tongue are exsanguine; the eyes in well-marked cases are dull and heavy; the temperature, especially that of the extremities, is depressed; the pulse is small and weak, often rapid, and easily fluttered; palpitation of the heart and breathlessness amounting to dyspnœa on any exertion are generally complained of, and more frequently still a sense of sinking in the præcordia, with irregular action of the heart. Sometimes she suffers from, and disturbs those about her by,

paroxysms of hysterical sonorous cough, unconnected with any pulmonary disease. In the great majority of instances the appetite is abnormal: occasionally it is morbidly increased, but more usually anorexia is present, and the patient loathes food or is sick after eating or much troubled with flatulence and gastrodynia. Often there is a desire for indigestible substances, such as chalk, magnesia, or cinders. The bowels are costive, often obstinately so, or, if not, the stools are dark and offensive. The abdomen is not uncommonly swollen and variable in size. The hands and feet occasionally swell at night, as also may the eyelids if not the whole face in the morning, and in such cases the urine although scanty is clear.

In addition to the foregoing sufficiently long list of symptoms, many of those obscure complaints which are so frequently met with in girls about the age of puberty may also be found connected with chlorosis. Of this kind is that severe left-side pain, otherwise inexplicable, so often complained of at this age, as well as those intense nervous headaches, breathlessness, and, in fine, that host of hysterical symptoms, to which I have already referred, by which all the features of organic and functional disease, whether pulmonary, gastric, or cardiac, may be simulated.

Treatment of Chlorosis.—In all cases of this kind our attention should be directed, first, to the rectification of that error of digestion which is a chief cause of the characteristic aglobulism, and, secondly, to the depuration of the vitiated blood by the excretory organs, rather than to any attempt at the restoration of the catamenial discharges, the absence or irregularity of which should be regarded as merely a symptom, albeit a primary and most important one, of the constitutional disorder.

For the first purpose open-air exercise, free exposure to sunlight, and good food are obviously more essential than any of the pharmaceutical remedies at our command, even if our main object were the cure of amenorrhœa so commonly connected with the chlorotic condition; and, even had we medicines more certainly emmenagogue than any we possess, we should ascribe little importance to their use in these cases, but rely rather on those hygienic measures which tend to improve the general health and strength. We should, therefore, recommend regular exercise, proportioned to the ability of the patient, the use of warm or

tepid salt-water baths every day, succeeded by friction with dry flannel or a soft brush, warm flannel underclothing, nutritious and digestible diet, aloetic purgatives, and, above all, the use of ferruginous tonics, such as the ammonio-citrate of iron or the citrate of iron and quinine. In those cases in which the circumstances of the patient will admit of the measure, however, by far the best way in which any tonic of this class can be used by a chlorotic subject is in the form of some of the natural chalybeate waters, such as Saratoga, Spa, Ems, Schwalbach, or Tunbridge Wells, taken at their source, and thus conjoined with change of climate, occupation, and diet, all of which, if obtainable, are so obviously indicated in these cases. In considering the physiological uses in chlorosis or anæmia of the chalybeate mineral waters just referred to, and how it happens that these prove so much more beneficial than any pharmaceutical preparations of iron of similar or greater strength would be, it should be borne in mind that in these springs the iron is contained in the most soluble and easily assimilated form in which it can be administered,—viz., that of the carbonate of the protoxide,—and that, moreover, it is combined with a large proportion of free carbonic-acid gas. By the first of these agents the character of the blood is altered: its hæmoglobin or red corpuscles are increased, its crasis becomes greater, and it is better fitted for its vital functions. The carbonic-acid gas produces no less important effects in the stimulation of the cerebro-nervous system, whose functions are so frequently depressed or otherwise affected in the hysteric or nervous disorders so commonly associated with chlorosis, and which, as Dr. Irwin, of Saratoga, observes, “are often caused by the coexistence of pelvic congestion with constitutional anæmia.”¹

The Menopause.—Having now considered the various disorders connected with the evolution of menstruation, or by which its subsequent accomplishment may be disturbed, it remains to say a few words on those no less important constitutional and local derangements that are liable to attend the cessation of this function at the turn of life, or “critical period,” as the menopause is well termed. It would, however, be impossible within the limits of this course to enter fully into the manifold pathological changes

¹ Hydrotherapy at Saratoga, by I. A. Irwin, M.D., p. 247. New York, 1892.

which are popularly, and by no means incorrectly, supposed to be connected with this turning-point in existence, or by which the termination of woman's distinctive sexual or reproductive vitality may be marked. It must, therefore, suffice for me to remind you that the climacteric epoch, which in climates such as ours ordinarily takes place between the forty-fifth and fiftieth years of age, is usually preceded by irregularity in the periods and amount of the menstrual flux, the catamenia commonly becoming less and less profuse, then probably omitting a period and returning more heavily at the next, and so alternating and gradually diminishing until the menstrual flow finally and completely ceases. During this time, which may be protracted over many months, the patient generally complains of frequent flushes of heat, headache, gastric and nervous derangements, and other evidences of constitutional disturbances. At the same time, moreover, latent disease, or even (as was long since pointed out by one of the older and most accurate writers on the subject,—viz., Copeland) organic lesions, which may have been so slight or so little advanced as to escape detection as long as the menstrual discharge continued and proved a periodical derivation from the affected organ and a recurring evacuation of the vascular system, will no longer continue stationary, but will assume an active and rapid form. The maladies which commonly become thus developed are the various organic and malignant diseases, and especially cancer of the uterus and breasts, gout, apoplexy, and paralysis, diseases of the liver, dropsies, structural changes of the lungs, cutaneous eruptions, ulcers of the lower extremities, hemorrhoidal affections, epilepsy, and, above all, those forms of hysteria and mental disorder which must be more particularly considered in a subsequent lecture. In many cases leucorrhœa occurs and continues long at this epoch, and tends to prevent the vascular fulness which might develop or aggravate these or other diseases. In other instances hemorrhoids supervene, and have the same effect; and even the appearance of cutaneous eruptions or ulcers on the extremities may then exert some degree of derivation from an organ disposed to serious disease, and thus be regarded as evidences of the *vis medicatrix naturæ*, and therefore under ordinary circumstances, at this period, as a rule, requiring no active treatment, at least until the system has had time to accommodate itself to its altered

condition, which, if these be left alone, it will usually do within a few months.

Meantime the physician should in most instances confine himself to relieving the local and constitutional hyperæmia immediately consequent on the arrest of the menstrual discharge, by attention to the patient's general health, and for this purpose may increase the compensatory evacuations of the *primæ viæ* by the judicious use of saline purgatives, of which the best in such cases is Carlsbad or Glauber's salt, together with the injunction of a lighter dietary and more exercise than usual, and, above all, the avoidance of wine and any other stimulants that the patient may have been accustomed to take.

LECTURE XL.

PSEUDOCYESIS, OR SPURIOUS, FEIGNED, AND CONCEALED PREGNANCY.

GENTLEMEN,—Among the disorders directly or remotely connected with the cessation of menstruation, or most commonly occurring at the period of the menopause, there is none concerning which it is more necessary that you should be well informed, and so be prepared to recognize, than pseudocyesis, or false pregnancy. Nor is there any complaint which when misunderstood may give rise to greater trouble to the practitioner, as well as to the patient, than this, or in the diagnosis of which errors are more commonly made. Thus, of the large number of cases of this kind that here and elsewhere have come within my observation, in the majority of instances the patient before seeking advice at the hospital had previously been under medical treatment without any recognition of the true nature of her condition. Moreover, there are other circumstances, which must be subsequently again referred to, in which the differentiation of pseudocyesis becomes a matter of great importance, as may occur, first, in cases in which the symptoms of pregnancy are counterfeited by diseases apart from those specially incidental to the menopause; and, secondly, in the more exceptional instances in which such symptoms are designedly

simulated by the individual in whose case we are consulted. Thus, in one remarkable instance of the latter kind my evidence was relied on to disprove the physical possibility of maternity in the case of a lady who had pretended to give birth to a child, which, having been accepted as his own by the alleged father, was after his death, on legal investigation, deprived of the inheritance so acquired.

The frequent occurrence of pseudocyesis as a climacteric condition is exemplified in the out-patient department of this hospital, where hardly a month passes in which it does not happen that some non-gravid women from forty-five to fifty years of age, laboring under the belief that they are pregnant, come under observation, and are generally with difficulty at last delivered—from their illusion! In this respect my clinical experience here is identical with that observed in my practice elsewhere. A brief recapitulation of the history of a few of these cases may serve as an introduction to the following observations on this subject.

CASE I.—I was asked to see a lady residing in the country, in consultation, under the following circumstances. Mrs. —, aged forty-one, a stout, plethoric woman, having no family, though over ten years married, and who till within the last year had always menstruated regularly, eleven months ago, for the first time, commenced to suffer from nausea and retching every morning. Shortly after her breasts began to enlarge and got painful, her appetite became capricious, her nervous system evinced considerable derangement, and obstinate diarrhœa then set in, which persisted up to the date of my visit. Her menses still returned every month, but, instead of lasting for three or four days as usual, now only remained for a few hours each time, and were extremely pale and scanty. She consulted her medical attendant, who said that she was probably pregnant, but advised her to visit an accoucheur in Dublin. This, however, she refused to do. The period fixed on for the expected confinement was the end of April. Four months from the commencement of the symptoms just referred to, she began, as she said, to feel the motions of the child, which gradually became stronger and stronger, and the abdomen continued to enlarge. The doctor shortly after this time imagined that he was able to detect the sounds of the foetal heart and the placental souffle.

The time of her expected confinement at last arrived. The nurse took up her quarters in the house, some of the family came down from town to be present at the anxiously-looked-for event, and all her preparations, baby linen, etc., were completed. No sign of labor, however, manifested itself as week after week passed beyond the expected time. Her friends got tired out, her family returned home, and she herself became exceedingly nervous and desponding, as her mother had died of dropsy at about her present age. But still she insisted as strongly as ever that she could feel the child's motions distinctly. Such was the history of her case up to the time that I was asked to see her.

On examination I found the breasts enlarged, but soft and flaccid, the nipples were somewhat turgid, there was a well-marked areola, and the glandular follicles around the base of each were prominent. The abdomen was about as large as that of a woman at the end of the ninth month of pregnancy. But the uterus was comparatively small, as I discovered when, with some difficulty, I succeeded in taking her attention off for the moment and overcame the resistance offered to any examination of the uterus by the abdominal muscles, which were tense, rigid, and arched. There was resonance on percussion, the large intestine being enormously distended by flatulence, the movements of which she had taken for those of the fœtus. There was also a considerable quantity of ascitic fluid in the peritoneal cavity. The vagina was pale; the cervix and os uteri were low down, hypertrophied, and in a state of granular erosion. Her chagrin, when informed that her preparations were not necessary, for the present at least, was naturally very great. Her medical attendant now agreed with me in recommending change of air and a combination of tonics and diuretics, under which treatment the abdominal swelling and the symptoms of pseudocyesis soon disappeared.

CASE II.—August 26, F. M., a clerk's wife, aged twenty-four, came to the dispensary to know what she should do to stop a slight irregularly recurrent hemorrhagic discharge, as she believed herself five months pregnant. She had had two children in three years since her marriage, and had on the present occasion suffered from all the symptoms she had before experienced when pregnant,—morning sickness, enlargement of the breasts and abdomen, etc., and had fainted, as she always had done, as she said, "when she

felt life in the child," a month previously. In this case, on examination, a large fibroid uterine tumor was discovered.

CASE III.—M. T., aged twenty-nine, a plethoric woman, three years married, had given birth to two still-born children. She was delivered of the last in January. Menstruation was then regular till June. She did not menstruate in July; complained of morning sickness, and imagined herself pregnant. At the end of August she had a profuse "discharge of the reds," in her own parlance, and came to the hospital for advice. I ordered her rest, astringent applications, and gallic acid with valerian and sulphate of soda internally. She was desired to return in a few days, but she did not come back to the dispensary till February 19, when she told me that the treatment had completely checked the hemorrhage. She still firmly believed herself to be pregnant, as her abdomen had been enlarging, her breasts had got full, and, as she asserted, there was milk in them, in proof of which she then squeezed a small quantity of a lactescent fluid from the nipples, which were prominent. The areolæ were well defined, and the sebaceous follicles around the base of each distinct as in any case of pregnancy. The patient insisted that she could feel the child's motions, and that her sensations were in every respect similar to those she had experienced in her former pregnancies. For the last few days she had suffered from frequent micturition, especially at night, together with tenesmus, and irregular colicky pains in the abdomen. She therefore believed herself very near her confinement, and had come to the hospital to obtain the usual admission ticket. On examination, I found the abdomen very tense, and so protruded as to be fully equal to that of a woman at the end of the ninth month of gestation. But the appearance of the tumor was very different from that of pregnancy, being globular and uniform, not oval or pyriform as in gestation. The umbilicus was also retracted, and the tumor subsided when I succeeded in taking off the patient's attention by engaging her in conversation, so that I was able to satisfy myself that there was no uterine enlargement. The vagina was pale, and the cervix uteri was long and low down. She was exceedingly dissatisfied when told that she was not pregnant, and expressed her doubts in very indignant terms. She returned in a few days, however, and was ordered a mixture, with sulphates of iron and magnesia in infusion of

quassia, and under this simple treatment she rapidly regained her accustomed health.

CASE IV.—December 6, I was consulted by E. B., aged forty, who had been many years married and had no family. Her menses had been regular, or rather profuse, ever since puberty, until about two years ago, when they ceased. For some years past she noticed that her abdomen was enlarging, but she did not pay much attention to this until within the last eight months, when she rapidly became so large as to attract the observation of her friends and to be incapable of following her usual vocations, and she suffered much from loss of appetite and dyspepsia. Her neighbors pronounced her pregnant, and a medical man whom she consulted, after some examination, appears to have favored their opinion. Acting on this, she made the customary preparations for her confinement, but at length, entertaining some doubt as to her real condition, she came up to Dublin to have the question decided. I found the breasts large, but soft and flabby, no areolæ, and the nipples very small. The vagina was narrow, and the os uteri, which was high up, was a small circular pin-hole orifice. The abdomen was much enlarged, measuring thirty-five inches in circumference, this enlargement being caused by a solid uterine tumor, occupying the greater part of the abdominal cavity. A distinct *frémissement* was perceptible on the right side, and also, though not so clearly, on the left, and on applying the stethoscope a well-marked blowing sound was very plainly heard on the right side of the tumor, which was audible, though more of a cooing character and not so distinct, on the left side. This sound had probably been mistaken for the placental *souffle*, and thus misled the physician who first saw the patient. It is not necessary to pursue the history of this case further.

CASE V.—A respectable-looking girl apparently about twenty years of age, a national school-teacher, was brought to me at the dispensary by her aunt, with whom she lived. The history of the case was that her changes had ceased for some months, her abdomen had become considerably enlarged, her appetite had failed, and she frequently suffered from retching; hence her friends had accused her of being pregnant, and insisted on her submitting to an examination. She herself denied the possibility of pregnancy. On examination, the hymen was found intact, the

parts extremely small, no mammary signs of pregnancy, and it was ascertained that the enlargement of the abdomen was produced by an ovarian tumor.

CASE VI.—August 12, L. P., aged twenty-five, an engine-fitter's wife, who was two years and three months married, and had one child, still-born, at full term a year and a half previously, applied at the hospital for advice, as she believed herself to be in the seventh month of pregnancy, reckoning from the time of the supposed quickening. She had suffered severely from morning sickness, and for the last three months believed that she felt the child's motions. There was a well-defined areola, the vagina was pale, the os and cervix uteri were hypertrophied and eroded, the abdomen was greatly enlarged, and resonant on percussion, the umbilicus was retracted, and the uterus was low down and small. Her bowels were habitually constipated, and her food was of the coarsest kind. She was very hysterical, and nervously anxious about her condition. The enlargement of the abdomen, the supposed foetal motions, and other symptoms in this case were evidently caused by the distended condition of the large intestines, by fecal matter, and by flatulence. She was purged freely, and ordered a mixture containing sulphates of iron and magnesia in infusion of quassia, and within a month's time regained excellent health.

CASE VII.—I was hurriedly summoned to see a lady living a couple of miles from town, who was said to be in labor. On arriving at the patient's residence, I was met by the nurse, who expressed much pleasure that I had arrived in time, as she was sure, she said, that the child would be born within an hour. She added that it was a natural presentation, and that the os was nearly fully dilated. On entering the patient's room, I found her in the usual obstetric position, lying on her left side, groaning loudly, and pulling hard at a strap fastened to the bedpost. She was a primipara, a delicate, hysterical-looking woman, aged thirty-eight, and only twelve months married. She had, I was informed, presented all the ordinary symptoms of pregnancy, except that she had a slight menstrual discharge, but paler and more scanty than usual, recurring at irregular intervals. She complained of the incessant tumultuous motions of the child, and persisted in asserting that the overflow of milk from her breasts had spoiled

all her clothes. On examination, however, I found the cervix long and low down, the os small and circular, the uterus presenting no sign of pregnancy, the abdomen very large and tympanitic, and the rectum enormously distended by accumulated fæces. Seeing that she was in a very nervous, excitable condition, I told her cautiously that there was nothing so urgent as she imagined in her case, as there was no sign of labor, or even any positive evidence of pregnancy, at present, and made my escape. Within a few days she called on me, but when I again hinted to her that she was not pregnant, and that it would be desirable to see another accoucheur in consultation to ascertain the cause of her symptoms, she became very indignant, pointed triumphantly to the lactescent fluid she squeezed from her breasts, insisted that she could feel the foetal movements, and the next thing I heard of her was that she had placed herself under the care of another physician, whom she wished to engage for her confinement.

Frequency and Clinical Importance of Pseudocyesis.—In view, therefore, of the comparative frequency of pseudocyesis, especially in hospital practice, either at the period of menopause or in earlier life, and its occasional importance from a medico-legal aspect, as well as the very scanty information thereon afforded in some of your gynæcological text-books, I shall now endeavor to put before you a more satisfactory account of its etiology, symptoms, diagnosis, and management. In so doing I may observe that—having long given special consideration to this subject, to which I first called attention many years ago in the Transactions of the Dublin Obstetrical Society, as well as subsequently in my articles on “Spurious Pregnancy” in Quain’s “Dictionary of Medicine” and in the *International Medical Journal*—I shall in the present lecture avail myself of my previously stated views on this subject, the accuracy of which has been confirmed by my lengthened clinical experience.

The large number of cases of pseudocyesis that have come under my notice during the twenty-one years which have elapsed since I published my first memoir on this subject leads me to believe that spurious pregnancy is of much more common occurrence than is generally supposed. Nor is it confined to any special age or class of society, as some writers think who speak of this condition as almost altogether limited to idle, over-fed, sterile, elderly

married women of the richer classes. On the contrary, the larger number of instances of this kind that I have seen occurred in the dispensary practice of the hospital, among patients of the poorer classes, and at different ages, from twenty-five to fifty. But, though I have thus met with examples of pseudocyesis in the earlier as well as in the later years of married life, the majority of such patients were women verging on, or beyond, the menopause, and were especially persons of the class described by Gooch, in whom the bowels as well as the uterus had become tumid, the intestines distended by flatulency, and whose omentum and abdominal parietes had grown very fat,—women, in short, having what Baillie called “a double chin in the belly.” The most notorious blunder of this description was in the case of Joanna Southcott, who, although sixty-five, was said by many medical men to be pregnant. Her death occurred, however, just before the date of her expected delivery, and on post-mortem examination no traces of pregnancy were discovered, but the walls of her abdomen were coated with four inches of adipose tissue, and the omentum was one lump of fat.

“It is evident,” says Dr. Tilt, “that if women marry about the time of cessation, and are fat, and anxious to have children, they may have some of the subjective symptoms of pregnancy,—morning sickness, painful breasts, the sensation of something moving in the abdomen,—so that it is impossible to deny pregnancy, unless after examination, when the body of the womb will be found of the usual size and the cervix hard. Two years after cessation, a married lady who had never borne a child persuaded herself that she was pregnant, on account of a slight increase of abdominal swelling. She would not allow an examination, but engaged a monthly nurse, and made all other arrangements. After a time an examination was made, and the womb was found unimpregnated. For many months she was very hysterical, and had long fits of crying and depression. Many remedies and doctors were tried without benefit, whereas six weeks of hydropathy restored her to good health, which has been now maintained for many years.”¹

¹ The Change of Life in Health and Disease, by E. J. Tilt, M.D., 4th ed., p. 43.

In another way the differential diagnosis of such symptoms and physical changes consequent on either utero-ovarian disease or some other intra-peritoneal tumor or disorder, or the natural cessation of the functional activity of the reproductive system of unmarried patients may, as in the celebrated and unfortunate case of Lady Flora Hastings, lead to wholly groundless suspicions and accusations, which in that case were promptly refuted on obstetric examination by Sir Charles M. Clark, and finally the imputation, founded on the mistaken diagnosis that had been made by the most eminent English court physician of his day, was, when too late, completely disproved on subsequent post-mortem investigation. I have myself seen a similar error committed by another physician of high reputation. Nevertheless, it is one the gravity of which it would be difficult to exaggerate, and into which I venture to trust that you will not be likely to be betrayed if these observations on the symptoms and diagnosis of pseudocyesis make any lasting impression on your minds. I would therefore beg you to recollect that under such circumstances it may happen, as Montgomery pointed out, "that a woman with an enlarged belly, arising from some purely accidental or morbid cause, becomes an object of suspicion, and, afterwards, the sudden reduction of her size may, however unjustly, affix upon her the imputation of clandestine delivery, at least; and, although such charge may never be made the subject of a legal or criminal investigation, its influences would be alike unjustly prejudicial to the character of the individual and injurious to the moral interests of society." Such cases are, however, fortunately of less common occurrence than those in which pseudocyesis is not the occasion of reproach, but rather, for a brief period at least, a matter of congratulation for its subject, until undeceived. This occurs in nine cases out of every ten of the kind in childless women desirous of offspring, and in exemplification of the old adage, "the wish is father to the thought." In this way it happens that spurious pregnancy is as often psychological as physical in its origin.

Symptoms of Pseudocyesis.—In cases of pseudo-pregnancy we frequently find all the general symptoms of pregnancy counterfeited with an exactitude that might well seem marvellous if we did not take into consideration the circumstances under which this condition is most commonly brought before us. In many instances

the patients so affected are women who in earlier life have borne children, and who subsequently, after a long interval of barrenness, or having become remarried when near the menopause, desire to be and persuade themselves that they are again pregnant. In a still larger number of this kind our would-be clients are sterile, *passée* married women craving for offspring, who, having familiarized their minds with everything relating to this subject, have become monomaniac thereon, and oftentimes succeed in deceiving others as well as themselves. In this way, and more particularly when dealing with women approaching the menopause, we may have presented not only the protean hyperæsthetic, nervous, and sympathetic disturbances supposed to indicate pregnancy, but also many of its common symptoms, such as morning sickness, following suppression of menstruation, enlargement of the mammæ and areolar papillæ, or even the secretion of a lactescent fluid, which I have seen triumphantly expressed in proof of her supposed approaching maternity by a patient whose uterus was void of any fœtal tenant. If at the same time the abdomen—whether merely from an excessive amount of fat in its walls or in the omentum, or from intestinal distention from fecal accumulations or from flatus (the rumblings of which are often relied on by the patient as evidences of the movements of the imaginary fœtus), or from any more tangible, morbid condition—becomes gradually increased in bulk, though in such cases this increase is nearly always much more rapid than occurs at the corresponding period of normal gestation, then heaven help the practitioner who ventures to suggest a doubt as to the nature of the case!

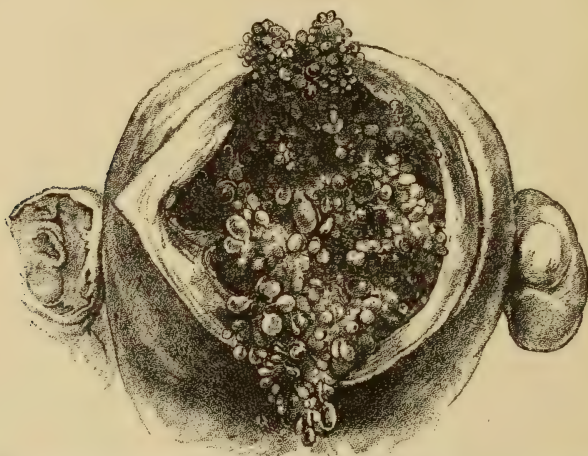
Causes of Pseudocyesis.—I have already sufficiently referred to the influence of “change of life,” hysteria, and obesity as common factors in the causation of the disorder now under consideration. But besides these there are many other morbid conditions oftentimes met with in such complexity as to give rise to no little difficulty in the diagnosis of such cases, by which pregnancy may also be counterfeited, including all the other varied forms of disease by which the intra-peritoneal cavity may be enlarged, such as ascites and visceral tumors of every kind, and especially ovarian, tubal, or uterine cystic or fibroid growths, as well as, though less frequently, by phantom tumors, gaseous distention of the uterus, or physometra, hæmatometra, etc.

Pseudocyesis from Molar Pregnancy.—The most important, however, of all the many morbid conditions that may possibly, in cases of spurious gestation, thus give rise to delusive anticipations of maternity is so called “molar pregnancy” in either of its well-recognized forms,—viz., (1) the “*mola carnosae*,” or fleshy mole; and (2) the vesicular, or, as it was formerly termed, hydatidiform mole. This subject is, I think, somewhat too briefly dealt with by Dr. Tilt in his valuable work on “The Diseases of the Change of Life,” nor does he altogether coincide with my experience as to the period of life at which molar pregnancy is most frequently observed in these cases. He only says, “In some women the fibrinous constituents of the blood unite, and come away as an ovoid ‘mole’ in the midst of parturient pains, or else embryonic structures turn to hydatidiform disease. In both cases the womb really enlarges, and is able to cause all the sympathetic disturbance of pregnancy. Dr. More Madden believes hydatidiform disease to be more frequent at the change of life than at any other time, but I have only observed it once, at forty-eight.”¹ Having, however, had an exceptionally large experience of the last-mentioned or vesicular form of mole disease and devoted some time to its investigation, I may in a subsequent lecture put before you a fuller account of its character and symptoms as observed by myself in several instances of this kind of spurious pregnancy. In the present connection, however, I need not enlarge on the pathology of vesicular or hydatidiform mole beyond saying that its existence is essentially dependent on myxomatous proliferation in the placental chorionic villi of a blighted and disintegrated ovum, although it must at the same time be admitted that in some exceptional instances similar-looking growths have been formed in the uterus and have given rise to suspicions of gestation under circumstances which apparently precluded the possibility of impregnation. In all the cases of this kind that I have met (with two exceptions) the patients, whilst suffering from myxoma of the chorionic villi of a blighted ovum, nevertheless still supposed themselves “quick” with a living child, the imaginary movements of which they insisted that they were conscious of until ultimately undeceived

¹ Tilt, *op. cit.*, p. 44.

by the expulsion of the vesicular growth, which generally occurs at about the fifth month, unless, as in a case such as that shown in the subjoined illustration, the patient should before then die from some other disease.

FIG. 255.



Uterus filled by vesicular mole pregnancy (photographed by Dr. A. J. Blaney).

Diagnosis.—The differentiation between pseudocyesis and true or normal pregnancy is oftentimes one of the most difficult questions that a medical practitioner may be called on to decide. Thus, for instance, in the last-mentioned form of spurious pregnancy there is no possibility of discriminating with certainty between a myxomatous mole and the normal product of impregnation *in utero* before the completion of the fourth month of gestation, though in all cases the presence, if clearly recognized, of the objective or positive signs of pregnancy after that period would then, of course, enable us to determine the question, as these can neither be simulated by disease nor counterfeited by design. In almost every case of pseudocyesis, however, it may generally be early ascertained that there is something unusual in the symptoms: either some essential one is absent, or else the symptoms that belong to one period of pregnancy manifest themselves at another, and commonly an earlier one than usual.

Until the fifth month physical examination affords us comparatively little assistance in such cases, and, as a rule, neither patient nor physician ever dreams of the possibility of the case being one

of spurious pregnancy at a previous date. From that time the sounds of the foetal heart and, though with less certainty, the placental bruit should, under ordinary circumstances, afford the obstetric expert most unequivocal means of discriminating between true pregnancy and pseudocyesis. Nevertheless, I must confess myself somewhat sceptical with regard to the value of the information thus obtained by many practitioners as an infallible test between these conditions. Even in the last month of pregnancy the non-distinguishability by an expert of the foetal heart at the moment of examination is *per se* no proof, as I have elsewhere shown, that the uterus may not then contain a living foetus. How much less reliable, therefore, is this negative evidence when employed, as it often is, at an early stage in such cases, and then perhaps by those who may be experts neither as auscultators nor as obstetricians! Moreover, the proofs that are derivable from the use of the stethoscope are by no means always reliable as diagnostics in such cases in the hands of the average medical practitioner. This fact I have seen exemplified even by men of some experience who had been deceived into the belief that they could recognize the sounds of the placental bruit and foetal heart in cases where neither existed, and who, on the faith of this supposed evidence of pregnancy, pronounced in haste opinions which were subsequently repented at leisure.

The most generally reliable diagnostic test in such cases is that afforded by a properly conducted bimanual or conjoint abdominal and vaginal examination, by which the exact size and position of the uterus may be ascertained, as well as the causes of the enlargement, at least in the later months of the pregnancy. In those cases of pseudocyesis in which the patient, being anxious to be thought pregnant, contributes, as is often the case, to the deception by making her abdominal muscles so tense and rigid that it becomes difficult to determine otherwise the condition of the uterus, this may easily be done by examination under chloroform or ether. I need not, however, dwell further on the diagnosis between pregnancy and those various morbid conditions by which it may be simulated in cases of pseudocyesis, as the differentiation of uterine, ovarian, tubal, and other intra-peritoneal tumors and diseases has been pointed out in previous lectures. Nor shall I occupy space here with any reference to the relative importance

of the several symptoms and signs of normal pregnancy, inasmuch as I have nothing to add on this point beyond the facts that may be found bearing thereon in my edition of "The Dublin Practice of Midwifery," or in any of your better-known obstetric text-books.

Management of Cases of Pseudocyesis.—It would be useless to discuss the general treatment of pseudocyesis, inasmuch as this condition, as I have already pointed out, is but a symptom of various morbid conditions, psychological as well as physical, to the detection and removal of which our attention must primarily be devoted in the treatment of this disorder. Nevertheless, the management of such cases is a matter of great practical importance; in the first place the physician must disabuse the patient's mind from her illusory anticipation of maternity, and secondly he must employ whatever means are indicated by the special circumstances in each case for the improvement of her physical and mental health, and so restore her, if possible, to the enjoyment of that greatest but, unfortunately, rarest of blessings, the "*mens sana in corpore sano.*"

With regard to the duty of undeceiving the patient in those cases of pseudocyesis of which the origin, as before stated, is psychological rather than physical, I may observe that I know of no task more unpleasant and thankless than that which has fallen to my lot in some instances of this kind, in which I was thus compelled to disillusion women who, having persuaded themselves and those about them that they were pregnant, had made the usual preparations for the expected event. In such a case, too, I have more than once been called in consultation to the aid of a young practitioner who, unfortunately, had allowed himself, as well as his patient, to imagine that she was not only pregnant but actually in labor. And under such circumstances I have found it no easy matter to smooth over the trouble in which both patient and doctor were involved, and to prevent the latter being (and perhaps not undeservedly) made the scape-goat for all the vexation of which a woman's wounded pride may be conceived capable under such circumstances. The possibility of pseudocyesis is, therefore, one that should never be lost sight of in accepting an obstetric engagement; nor should any case ever be booked down as a mere matter of routine, and without suf-

ficient inquiry to prevent such an untoward mistake, than which few errors of judgment could be more prejudicial to a practitioner.

In many instances the diagnosis between spurious and true pregnancy is by no means easy ; and hence, bearing in mind the frequency of cases in which the symptoms of gestation are either simulated or obscured by disease, as well as the possibility of this condition being wilfully feigned, I may again reiterate what I have learned from actual experience is a much-needed word of warning with regard to the necessity of greater caution than is sometimes exercised by medical men in answering, without sufficient knowledge, the often-asked question, "Is the person in whose case we are consulted actually pregnant, or not?" On our reply to that apparently simple query may possibly depend the fair name of a girl, or the happiness of a wife, or even the very life of a condemned prisoner, in whose case the plea of pregnancy may be raised in stay of execution. Issues so grave are not to be lightly regarded or hastily disposed of ; and in his decision thereon, as in all other obstetric difficulties, the practitioner's judgment should be arrived at and acted on with due deliberation and caution.

Pregnancy Obscured by Disease.—Very closely connected with the subject of pseudocyesis, in which pregnancy is counterfeited by disease or by art, is the consideration of those cases in which pregnancy simulates disease, or is concealed by the patient under pretext of it.

Pregnancy may exist under circumstances that seem very unfavorable to its occurrence, and under conditions which render its recognition difficult and obscure. Hence the necessity for much caution in giving expression to any opinion on this subject until you have made a careful examination of the patient, no matter how improbable the existence of pregnancy might *a priori* appear. Bear in mind also that it may possibly occur in very early life, as I have seen in one instance in a girl only fourteen years old ; and, on the other hand, impregnation may take place at an advanced period of existence, and after many years of sterile married life, as I have known to happen in the case of a patient whose acknowledged age was fifty-two, but who looked even older, and who, when upward of twenty years married, gave

birth to a healthy child after a very rapid labor. Much more remarkable cases of the same kind are cited by Montgomery¹ and other writers. Thus Capuron, among these, refers to the following. Pliny, he says, records the case of Cornelia, of the family of the Scipios, who at the age of sixty bore a son who was named Volusius Saturninus. Marsa, a physician of Venice, mentions that he treated a woman for dropsy who was really pregnant; but he was deceived by her age, which was sixty. Valescus de Tarenta mentions a woman who continued to menstruate beyond sixty, at which age she bore her last child: Capuron adds that it was generally believed in Paris that a woman, in the Rue de la Harpe, bore a daughter at the age of sixty-three, and nursed it.²

Many cases illustrative of the foregoing remarks have come within my observation. One (Case VIII.) was that of a woman, aged thirty-eight, who had been married eighteen years and had no family. Her menses were irregular, and she suffered from endometritis and extensive granular erosion or adenoma of the os and cervix uteri, for which she had been under my care as an extern patient for a considerable time, without any substantial benefit, as the disease would at times almost completely subside under the treatment adopted, and she would then absent herself for some time, to return as bad as ever. I induced her at last to come into the hospital. She was suffering at the time of her admission from menorrhagia, to which, as is common in such cases, she was occasionally subject. The os and cervix uteri were congested and in a very angry-looking, eroded, or adenomatous state. The granular, or adenoid, surface was cauterized with nitrate of silver, and local douching was employed night and morning. Under this treatment the bleeding was checked, and for several days she progressed favorably. In about a week from the time of her admission, however, I was called up late one night, being told that Mrs. R. had a bad attack of colic, and that the hemorrhage had also returned, and within a few moments of my arrival a considerable gush of blood escaped, and with it was expelled a very perfect ovum of about the third month.

¹ Montgomery, *An Exposition of the Signs and Symptoms of Pregnancy*, p. 165.

² Capuron, *Médecine Legale*, pp. 92, 98.

CASE IX.—A lady who, having been married at a very early age, had three children before her twenty-first year, and then had no sign of pregnancy for over seven years, was attacked by fever, on recovering from which she was affected by violent hysteria; this ultimately passed into acute hysterical mania, necessitating her being placed under restraint for a short time. Before this step was taken, her menses having suddenly ceased, she was treated by the strongest emmenagogues, which were given in large doses and persisted in for a considerable period, for the purpose of restoring the catamenia, providentially, however, without any effect. After the complete subsidence of the cerebral symptoms her general health became excellent, and a short time after, whilst travelling, her figure, which was naturally slight, suddenly altered, and she rapidly increased in size. She then for the first time suspected the possibility of pregnancy, and, soon after her arrival in this city, consulted a physician, who, misled by the neurotic complications present, and by the fact that until some weeks previously there had been no apparent abdominal enlargement, concluded that the case was hysterical, and that the sudden ventral tumefaction was due merely to flatulent distention of the intestines, and assured her positively that she was not pregnant. On the very next day, however, I was called to her hotel, and, after a few hours, delivered her of a child at full term.

Concealed Pregnancy.—Concealed pregnancy is of much more frequent occurrence than either spurious or feigned gestation. This subject, though one of great practical interest, and directly connected with the condition previously described, is, however, far too wide for full consideration within the limits of the present lecture. And hence I am obliged to omit here any reference to many of the cases illustrating the various, and in some instances remarkable, circumstances under which concealed pregnancy has been brought under my notice. Nevertheless, I may at least call your attention to the fact that the practice of concealing pregnancy with the design of committing child-murder—or, in other words, of procuring abortion—is, I fear, becoming of late years more common in this city than was formerly the case. The reason for this is probably owing to circumstances still in operation arising out of the famine period, since which the proportion of the married to the unmarried, previously greater in Ireland

than in almost any other country, has been considerably diminished. One result of this is that illegitimate births are more frequent than they were in Ireland. But the increased proportion of illegitimate births is by no means a full measure of the present extent of the evil now referred to. Of late years, by the deluge of cheap vicious literature poured into this country, and which circulates among the class that constitute the majority of the unmarried patients of our lying-in hospitals, a still greater evil has become familiarized to the generally badly-reared and sorely-tempted victims of seduction, who too often seek what they have been thus taught to believe to be a safer mode of escaping the penalty of their error. Hence it now becomes more than ever necessary for every medical practitioner to be prepared to meet with cases of concealed pregnancy and attempted abortion under various disguises, and thus be able to detect and frustrate such crimes. So often have I recognized pregnancy in patients who applied for emmenagogues under the pretext of simple amenorrhœa, and who were most indignant when any doubt was thrown on their statements, that I never under any circumstances prescribe emmenagogues in my practice until I have convinced myself that the case is a fit one for their administration. In other words, the safe rule in these cases I believe to be the reverse of the legal maxim,—viz., in cases of amenorrhœa with the history and causes of which we are not perfectly acquainted, we should treat the patient as though she was pregnant until we are satisfied that she is not so. But I need hardly add that we should do this without in any way expressing suspicions that, after all, may be unfounded, and should simply order some placebo when pressed to prescribe emmenagogues, until, by a little observation, we have time to ascertain the true state of the case.

The same observation applies with equal force to the performance of all operations on the organs of generation in cases in which even a possibility of pregnancy exists, as well as to the application to them of instruments of any kind. This caution is especially applicable to the employment of the uterine sound, an instrument which, though of great value in suitable cases and when cautiously used, is, I think, far too indiscriminately resorted to by many practitioners, and which, when thus abused, is no less potent for evil than it is for good when properly employed. I

have repeatedly seen abortions and dangerous floodings thus produced by the abuse of the sound and other gynæcological appliances when the patient either concealed or was ignorant of the fact of her being pregnant ; a circumstance, I may add, which it is the duty of the medical man to ascertain for himself, beyond the possibility of error, before he resorts to such instruments.

A considerable number of instances of concealed pregnancy have from time to time come under my observation. Among these I may mention that of a country girl who succeeded in persuading a number of experienced medical practitioners into the belief that she was suffering from an ovarian tumor, she being at the time advanced in pregnancy, the existence of which was not even thought of. So far was the deception carried that a treaty was entered into with an eminent surgeon for the performance of ovariectomy. But as the fee required appeared to the girl's relations to be very large, they managed to get her admitted as a patient into a metropolitan hospital, although they could well have afforded the necessary expense of medical treatment. She was accordingly taken into the hospital as a suitable case for ovariectomy, but a few days later the true nature of the case was detected by my esteemed colleague, the late Dr. T. Hayden, and shortly afterwards I attended her in her confinement. Cases such as those which I have just related are, I think, well deserving of your consideration, showing, as they do, the importance of every medical practitioner making himself thoroughly familiar with all the circumstances in which pregnancy may be feigned or in which it may be concealed or be counterfeited by disease.

LECTURE XLI.

HYSTERIA AND OTHER CEREBRO-NERVOUS DISORDERS OF WOMEN.

GENTLEMEN,—In the preceding lectures the circumstance was pointed out that the disorders of menstruation are very frequently associated with hysterical and other cerebro-nervous affections, and I told you that the latter were of sufficient importance to

demand special and separate consideration in any course of gynæcological teaching. In accordance with that view, I shall therefore devote the following observations to a brief account of the principal forms of nervous or cerebro-nervous and mental disturbance which in women are especially liable to occur in connection with utero-ovarian derangements and disease.

Hysteria.—The increasing prevalence of hysterical and neurotic complaints as well as of still graver cerebro-nervous and mental disorders now observed among women is a fact which from its social as well as professional importance demands fuller gynæcological consideration than has yet been generally given to it. To none certainly should the etiology and treatment of such complaints be of more interest than to those who as specialist practitioners are daily witnesses of the reflex effects of utero-ovarian irritation in the victims of hysteria, or who have to deal with the many-sided forms of cerebral disturbance connected with pregnancy and parturition, and by none may they be more advantageously studied.

It is unquestionable that uterine pathology is very generally neglected in the study of female nervous diseases. Why this should be the case appears inexplicable, considering the importance and frequency of nervous complications in connection with most of the complaints peculiar to women. Thus, for instance, within the last eighteen years upward of ten thousand patients have come under my observation in the gynæcological wards and dispensary of the Mater Misericordiæ Hospital; and in nearly thirty per cent. of these cases symptoms of nervous disorder, varying in intensity from the most trivial hysterical complaint to the gravest forms of cerebro-nervous disease, were noted.

The greater frequency of cerebro-nervous disorders met with in modern practice among women corresponds exactly with the increasing prevalence of those gynæcological complaints which have come into such prominence of late years, and results from the highly-complex organization and relations of the female reproductive system, as a consequence of which the effects of any serious disturbances in its structural or functional integrity are not limited to contiguous organs, but, on the contrary, are spread by reflex or sympathetic action to the most distant parts of the body, and are especially manifest in the protean forms of cerebro-

nervous derangements to which women are thus peculiarly liable. The predominant influence of the utero-ovarian system in this way is evinced in almost every form of gynæcological complaint from the dawn of puberty until the termination of the period when utero-gestation is possible. The commencement of this epoch, as I may here repeat, is marked by a sudden and complete revolution in the female mental as well as physical constitution. At each succeeding ovulation there is also a coincident recurrence of constitutional and nervous disturbance, so that few women whilst menstruating can be said to enjoy either physical or mental health in their perfect integrity. When menstruation has become established and is regular in every respect, the accompanying nervous disturbance may be so slight as to escape observation. But the earlier catamenial periods, and every subsequent deviation from normal menstruation, as well as the menopause, are almost invariably attended with some manifestation of hysteria.

Under these circumstances the experienced practitioner will be prepared to meet with the reflex effects of utero-ovarian irritation, acting on the cerebro-spinal nerve-centres, through the wide-spread ramifications of the sympathetic and vaso-motor systems, in the guise of nearly every physical complaint and mental disorder. The earlier nervous symptoms consequent on utero-ovarian disorder are generally unrecognized, but as the local disease progresses these come into such prominence as in many cases to obscure all the evidences of their physical exciting cause. The most important of these manifestations of hysteria are increased nervous susceptibility, or general hyperæsthesia, and diminution of inhibitory nerve-force, together with perverted moral or mental excitability, and in some cases actual delusions.

Hysterical hyperæsthesia is more frequently coexistent with amenorrhœa or dysmenorrhœa, resulting from uterine or peri-uterine disease or displacement, than with any pathological increase in this function. The functional connection between the cerebro-nervous and reproductive systems is, moreover, illustrated in chronic uterine and ovarian diseases, which are usually attended by hysteria. In such cases the general constitution soon sympathizes with the local disorder, and, as I have previously pointed out, the patient loses flesh, suffers from cardialgia, gastric derangement, palpitation, and intense headache, and becomes

cachectic-looking, her appetite is abnormal, her bowels are torpid, and, as the local disease progresses, the mental health begins to suffer as much as the bodily condition. She now becomes nervous, despondent, anxious, excitable, or irritable to the verge of insanity; or, in other words, hysteria follows chronic uterine, ovarian, or tubal disease. Even the ordinary hysterical paroxysm associated with menstrual derangements is of more serious pathological significance and requires more care than is usually admitted. An attack of acute hysteria, or hysteric fit, is too generally passed over as nothing of importance, and merely requiring a dash of cold water or a sniff of smelling-salts for its cure, whereas it should be regarded as the reflex indication of utero-ovarian irritation, the neglect of which may possibly eventuate in the gravest forms of cerebro-nervous disorder—viz., epilepsy and insanity.

Epilepsy and Hystero-Epilepsy.—Epilepsy in women is unquestionably most frequent in those of an hysterical temperament, and this fact is evidenced as decidedly in true idiopathic epilepsy as in hystero-epilepsy. I can hardly call to mind a single case of any form of epilepsy in a woman in which there was not some derangement of her menstrual health.

In hystero-epilepsy the convulsive seizures are apparently undistinguishable from ordinary epileptiform convulsions, from which, however, they may be diagnosed by Charcot's temperature-test, as well as by the previous history and physical condition of the patient. Within the last ten years many cases of this have come under my notice, and in these the influence of uterine displacement or flexions was not as apparent as from Dr. Gairly Hewitt's observations might have been expected. In only four cases was there any marked displacement, whilst in twenty instances there was some accompanying menstrual disorder.

Hysterical Delusions connected with Epilepsy.—Among the symptoms of hysterical hyperæsthesia which often usher in epileptiform disease, Morel, who is copied by more recent writers, mentions "delusions on the subject of health, unjust complaints, and recriminations without foundation," as facts which should awaken our solicitude. These hysterical symptoms, however, are, I believe, still more marked at the moment that consciousness returns after an epileptic seizure, when the patient slowly

and indistinctly begins to remember something that happened immediately before, or even during, the paroxysm. Occasionally there is then a curious interblending of the patient's recollections, real and fancied; and in this condition the phenomena of the pre-epileptic aura may come into startling prominence, and be insisted on as of actual occurrence. In this way the illusions connected with epilepsy may possibly, in some cases, become of serious medico-legal interest. Thus, a recent instance of alleged assault on a lady, which puzzled the ingenuity of our detectives and taxed the imagination of our journalists, might perhaps have been better elucidated by a physician conversant with the post-epileptic delusions of hysterical women.

The Voice in Hysteria.—As a general indication of hysteric disease the changed character of the patient's voice in such cases may be mentioned. This alteration consists in a loss of that peculiar softness and melody which distinguishes the female from the male voice. In utero-ovarian disease producing hysteria the patient's intonation either becomes more rough and masculine than normal, or else becomes shrill and piercing or metallic, as well as more rapid in the sequence of its modulations. The hysteric voice is not easily described, but once recognized it is, I believe, an unmistakable evidence of nervous functional disturbance consequent on utero-ovarian disorder.

Hysterical Trance.—Hysterical disorders may also manifest themselves by diminished nervous activity, and general or local anæsthesia, as well as by the opposite condition. Perhaps the most remarkable illustration of this fact is afforded by hysterical trance or cataphora, in which the ordinary phenomena of vitality are apparently suspended by a morbid condition undistinguishable in some instances from death. In a paper of mine in the *Dublin Journal of Medical Science* those interested in this subject may find well-authenticated instances in which patients in a state of trance or cataphora, so profound as to counterfeit death, have been actually consigned to the tomb, or were rescued from it only by some happy accident. Within my own experience I have met with several instances of hysterical lethargy, of which the following cases may be regarded as typical.

On the 1st of February I was hurriedly called out at night to see a young lady who, as I was informed, was in a trance, and

was then dying. On arriving at the patient's residence I found her completely unconscious, sunk down to the foot of the bed, cold as marble; the respiratory movements were not discernible, she was almost pulseless, and the cardiac sounds, which were faintly audible, were rapid as well as extremely weak. The lethargic condition commenced some sixty hours previously, and had gradually become more and more profound, resisting all efforts of those about to restore her to consciousness. This was at length accomplished by repeated sinapisms over the heart and to the nape of the neck and the legs, and by the administration of enemata of strong infusion of coffee, brandy, and tincture of valerian. The torpor to some extent, however, continued for the next couple of days. She then became capable of taking fluid nourishment and medicine by the mouth, and gradually recovered, being completely convalescent by the end of February. In this case the patient, who was of a highly hysterical temperament, had been suffering for some months previously from complete amenorrhœa; and the attack was consequent on a severe mental shock.

Another case of this kind, to which I have elsewhere referred, was that of a young lady aged nineteen, and apparently in perfect health, who, on the afternoon of the 31st of December, went into her room to make some change of dress. Shortly afterwards she was found lying in a profound sleep, from which she could not be aroused. This continued until I saw her twenty-four hours later. She was then still sleeping; the decubitus dorsal; respiration scarcely perceptible; pulse 70 and very feeble; face pallid, lips colorless, and extremities icy cold: in short, so death-like was her aspect that a casual observer might have doubted the possibility of the vital spark lingering in that apparently inanimate frame, on which no external stimulus seemed to produce any impression, with the exception that the pupils responded to light. Sinapisms were applied over the heart and to the legs, where they were left until vesication was occasioned, but without causing any evidence of pain. Faradization was also resorted to without any effect. The bowels were cleared out by a fetid injection, and subsequently nutritive enemata, with ammoniated tincture of valerian, were ordered every third hour. On the following day her condition was unchanged; and on the 3d of January the only alteration observable was a still greater prostration of strength, so that

her pulse was then imperceptible at the wrist, and it was found necessary to keep her alive by the repeated subcutaneous injection of sulphuric ether. At my request Sir John Banks now saw her in consultation, and agreed with me in regarding the case as one of hysterical lethargy.

It would be useless here to follow the details of this case further than to add that she continued to sleep on, with the exception of some momentary intervals of semi-consciousness, like a person between sleeping and waking, until the tenth day from the commencement of the attack, when she suddenly awoke, called for her clothes, which had been removed from their usual place, and wanted to come down to breakfast, as if nothing unusual had occurred. For the next week she remained, however, somewhat debilitated and lethargic, but this gradually passed off, and she recovered perfectly.

Hysterical Paralysis.—In some instances the nervous symptoms of utero-ovarian functional disturbance are manifested in the simulation of every form of paralysis, from the most trivial local loss of power to complete paraplegia. Of the latter I recently met with a well-marked example in the case of a young lady, aged nineteen, who had never menstruated, and who, when I first saw her, had been for nearly eighteen months confined to bed with apparent complete loss of power of the extremities. During this period she had been actively treated by several practitioners, by whom she had been alternately submitted to faradization, the various nerve-tonics, blistering, cold and hot baths, and douches, as well as ultimately being enclosed in a plaster jacket, to remedy the supposed spinal cause of her condition. None of these remedies, however, proved of the smallest use, until, after an interval of nearly two years from the commencement of the attack, the menses made their appearance, and from that date she rapidly regained her former health and strength.

At the same time, of course, it should be fully recognized that the terms "functional" and "hysterical" paralysis are not convertible, and that in some cases of functional paralysis even in women of neurotic temperament the disease may not be hysterical. As Dr. Bastian has recently observed, "Hysteria is, after all, only one of the general conditions under the influence of which paralyzes of a purely functional type may develop themselves. Because a

case belongs to the latter category, therefore, we must not on this account look upon it as necessarily hysterical in its origin. But this is what is only too frequently done; and the danger is that when he does so the practitioner should be apt to think that he is required to go no farther.”¹

Hysterical Insanity. — The increasing prevalence of lunacy among females is a fact of the gravest social as well as medical interest, and I think it may be shown to concern more particularly those who are the usual medical advisers of women in all their special complaints.

Within the last thirty-five years the number of registered lunatics in England and Wales has risen from one in eight hundred of the population to one in three hundred and fifty-two; and a similarly alarming increase in the number of the insane has taken place in Scotland and Ireland. Thus, for instance, in Ireland, between 1880 and 1890 the number of insane under care increased from 249 per 100,000 of the estimated population in 1880 to 346 per 100,000 in 1890. Formerly insanity was more frequent in the male sex, who from their habits and occupations were most exposed to the exciting causes of mental disease; now, on the contrary, the increase of lunacy is even more marked in women than in men. Thus, on referring to the Reports of the Lunacy Commissioners, I find that there are 85,167 registered lunatics in England and Scotland, and of these 46,586 are *females*; and in the Irish private asylums there were 368 female lunatics and only 253 males.

The facility with which any person may legally be confined as a lunatic is utterly indefensible. Our lunacy laws require revision in many respects, and in none more than in this. No person should under any circumstances be confined in a lunatic asylum, public or private, save on the warrant or certificate of two official and responsible medical inspectors; and in the case of supposed female lunatics, at least one of these inspectors should be an expert who has had some *practical experience* of the special disorders which may in women give rise to hysteria, and thus simulate insanity.

¹ On Hysterical and Functional Paralysis, by H. C. Bastian, M.D., p. 7, London, 1893.

The hysterical origin of insanity is occasionally strikingly exemplified in gynæcological practice. The mental affections generally associated with disordered menstruation or chronic peri-uterine and sexual irritation are usually characterized by exaggerated nervous susceptibility, intense egoism, manifested in the absorption of the patient's mind on the symptoms of her fancied disease, mental excitability, and extreme irritability of mind and temper, or perversion of the moral faculties rather than any tangible delusions of the intellectual powers. The latter are by no means infrequent, however, in cases of suppressed menstruation.

The common occurrence of amenorrhœa in the early stages of insanity is generally recognized, and in such cases there is often an unquestionable connection between the catamenial suppression and the mental disorder. In a case related many years ago by Pinel, the patient from before the age of puberty was in a state of mental incoherence, which long continued and was attended with amenorrhœa. One day, on rising from bed, she ran and embraced her mother, exclaiming, "I am well!" The catamenia had just flowed, and her reason was immediately restored.

Cerebral disease is by no means generally traceable by pathological investigation in cases of insanity, and in many instances this condition is apparently connected with disordered menstruation, as just shown, or with puerperal septicæmia, directly affecting the vascular state and functional activity of the brain. In gynæcological practice mental disturbances more generally come before us as the result of reflex irritation from utero-ovarian disease.

As an illustration of this I shall cite a case which shows that gynæcologists may sometimes cure insanity :

Some years ago I was asked to see a lady in a private lunatic asylum near Dublin. She was unmarried, about forty-six years of age, and had always been of a peculiarly nervous, excitable temperament, which, as life advanced, became more pronounced, and was accompanied with delusions, religious despondency, and suicidal tendencies. Her friends were now advised to place her under restraint, and did so with the expectation that removal from all external sources of mental irritation, and the care she would enjoy in one of the best managed of our private asylums, would insure her recovery. At the end of two years, however, her mental condition was no better than when she entered the asylum,

and her physical health was much worse. It was then suggested by one of her family that, as she had formerly been under treatment for some uterine disease, a gynecologist should again see her. On examination I found considerable tumefaction and evident tenderness about the left ovary. The uterine cavity was normal in size, the cervix elongated and cartilaginous, and the os surrounded with a ring of adenoma, or what was then regarded as erosion. The patient was emaciated and cachectic-looking. Her breath was fetid, tongue coated, and pulse quick and weak. Under these circumstances the necessity for gynecological care appeared obvious. But, as my opinion on this point was not in accordance with that of the visiting physician of the asylum, a further consultation was proposed. My friend and former teacher, the late Dr. McClintock, now saw her with me, and, as he fully endorsed my view of the case, she was removed from the asylum. After some months the uterine and ovarian irritation yielded to treatment, and at the same time mental and nervous disturbance also gradually subsided, and the patient was enabled to resume her former place in society.

Such a case as this is by no means singular in its causes and symptoms. Unfortunately, however, it is exceptional in treatment and result. In the great majority of our lunatic asylums little, if any, special attention is given to utero-ovarian disease as a cause of insanity. Hence I think that there can be no doubt whatever that among those fifty thousand patients who are scattered through the various female lunatic asylums of the United Kingdom there are needlessly and improperly confined many women suffering from reflex cerebro-nervous disturbance consequent on peri-uterine irritation or disease. Moreover, in a large number of such cases these patients might be restored to mental, as well as bodily, health by appropriate treatment.

The general non-recognition of utero-ovarian disorders among the insane in lunatic asylums is easily understood. Most alienists pay little attention to the study of gynecology. Besides, there is commonly among those suffering from mental disease a peculiar insensibility to physical suffering, or analgesia, caused by impaired nutrition of the nervous centres and diminished vital action of the nervous sensation, and therefore the usual evidences of disease do not disclose themselves in their ordinary course. Under such

circumstances, no complaint of uterine disorders being made by the patient, these diseases may unsuspectedly run their course as long as existence endures.

It is often most difficult, especially in cases of insanity or supposed insanity, to say whether any uterine examination or treatment, which is justified only by absolute necessity, be required or not. It can hardly be contended that proprietors of private lunatic asylums, or resident medical superintendents of public ones, have, as a rule, any special knowledge or experience of the obscure utero-ovarian affections frequently connected with cerebro-nervous disorders. Hence some legal provision should be made for the appointment to all female asylums of special medical visitors who have that actual experience in gynæcological practice which will enable them to recognize and treat these cases.

Cerebro-Nervous Disorders of Pregnancy and the Puerperal State.—It is in obstetric practice, however, that we meet with the most obvious illustrations of the influence of uterine causes on the mental and nervous functions. During pregnancy there is a general tendency to nervous and cerebral functional disturbances. To this may be ascribed those otherwise unaccountable alterations in tastes and dispositions, irritable condition of mind and temper, unreasonable likings and aversions, irresistible longings and foolish fancies, which in some women accompany pregnancy.

Familiar instances of sympathetic or reflex nervo-mental disorder arising from pelvic irritation will at once occur to every obstetrician. Of this nature, for instance, is that transient delirium so commonly observed at the termination of the second stage of labor, during the exit of the foetal head through the vulva.

The peri-uterine origin of certain forms of mental disorder is strikingly evinced in puerperal mania, or insanity consequent on parturition. This is usually preceded by the premature suppression or diminution of the lochia, which commonly becomes fetid as well as scanty, accompanied by a sudden rise of temperature and acceleration of pulse, insomnia, headache, and excitability of temper which rapidly increases and develops into maniacal violence, frequently directed against those whom the patient naturally would hold dearest to herself. These symptoms, and more especially the marked and sudden alternations of temperature usually shown in the clinical charts of such cases, point unmistakably to the septi-

cæmic origin of the most frequent type of puerperal mania. In these instances the associated mental disturbance resembles those forms of delirium that occur in the course of many other disorders in which toxæmia, or blood-poisoning, whether from arrested excretion or from septic infection with micro-organic causes of disease, results in cerebral disorder.

Another exemplification of nervous disease obviously connected with uterine irritation may be found in the hysterical convulsions of pregnancy. The consideration of this subject and of the other forms of eclampsia that may be associated with either gestation or the puerperal state must, however, be reserved for a subsequent lecture.

Moral Causes of the Hysterical and Mental Disorders of Women.—In addition to those local irritations, diseases, and functional derangements of the sexual system already described, there are other causes of the increasing frequency of cerebro-nervous and hysterical disorders observable in women at the present time. These causes, although moral rather than physical, are so directly productive of the special diseases that are the subject of this lecture, and are so interwoven with their treatment and results, that some reference must be made to them. The non-physical, or moral, factors alluded to include, among others, the following: first, the misdirected or neglected mental and moral training too prevalent in the education of female youth; secondly, undue stimulation of the reproductive functions; and, thirdly, the general and increasing tendency to alcoholism in women as well as in men. The latter those most intimately acquainted with the inner life of modern society must recognize as an evil widely spread through every class, and one the moral and physical effects of which are daily brought before us in the disorders under consideration. Utero-ovarian disorders may also be in some instances the cause of intemperance. I have repeatedly traced the craving for stimulants in confirmed inebriates to the administration of alcohol for the relief of dysmenorrhœa. In such cases “this unkind nepenthe” is often employed in increasing doses until finally, as I have before said, the victim of dysmenorrhœal alcoholism, perhaps unconsciously, becomes an incurable drunkard.

These facts, although frequently ignored, cannot be beyond the cognizance and concern of medical practitioners who have to treat

their pathological consequences. Among the moral predisposing causes of the morbid conditions of mind that are comprehended in the term hysteria must be included, on the one hand, the ill-directed tendencies of female education in those cases in which it is sought to force woman's intellect into channels and pursuits which nature has obviously intended for the opposite sex. On the other hand is the neglect of suitable moral, mental, and physical training in female youth, and of suitable employment in after-life. And, finally, in this connection is the pernicious influence of that vitiated light literature by which the impressionable mind of girlhood is perverted, the passions are stimulated, and the foundations laid for the future development of various morbid conditions of mind and body.

For various reasons, I shall not here refer to all the mental or moral disorders thus caused. In less serious cases the result may be merely an exaggeration of that peculiar sentimentality which is inherent in female youth, and which is generally so evanescent as to require little if any medical attention. In some instances, however, this excess of natural sentiment is of graver consequence, the mind becoming so occupied by its predominant illusion as to impair more or less completely and permanently the exercise of the rational faculties, and not alone produce mental derangement but also react injuriously on the general health, and more especially on the utero-ovarian functions of the love-sick girl. Instances of this kind are familiar to nearly every practitioner. There are few among us who have not been consulted by some anxious mother, alarmed by symptoms of mental dejection and nervous functional disturbances, for which no physical cause could be discovered, and arising from cardiac causes beyond stethoscopic diagnosis. This condition is, in its inception, entirely distinct from erotomania, but, if allowed to develop unchecked, may in some instances ultimately result in the latter.

If neglected mental training is of so much account in the causation of hysterical disorders, on the other hand to the excessive and misdirected application of the female mind may in many instances be traced the origin of the morbid nervous conditions already discussed. A few years ago women were comparatively exempt from several of the predisposing causes of insanity which in men are recognized as important factors in its

etiology. Such is no longer the case. Nowadays women are not only liable to those special causes of nervous disorders which arise from utero-ovarian irritation, but, moreover, in many cases they voluntarily expose themselves to all the accidental causes of insanity to which men only were formerly subject. This is one result of that hopeless contest with nature in which they are engaged who seek to unsex themselves by assuming all those masculine privileges and modes of life which may be too dearly purchased at the expense of that increased tendency to cerebro-nervous disorder by which, in such cases, outraged nature frequently avenges her violated laws.

Epidemic Hysteria.—The phases of hysteria to which as affecting individual patients I have just referred may present a still more serious matter for consideration,—namely, when, as has frequently occurred, hysterical affections assume an epidemic form. The possibility of such complaints affecting simultaneously considerable numbers of individuals or being communicated from one member to another of whole communities of women was exemplified beyond question in the dancing and flagellant epidemics of the Middle Ages, of which a detailed account may be found in the work on this subject by my father, the late Dr. R. R. Madden.¹ That work, I would venture to observe, though published many years ago, might also throw much light on more recent developments of epidemic hysterical hallucinations, which in connection with the fatuous exhibitions of modern hypnotism have recently been graphically described in the *British Medical Journal* by Mr. Ernest Hart, and in which, as in others of the same kind that I have myself elsewhere described, the chief actors and victims were women obviously suffering from acute hysteria and urgently needing active gynæcological and medical care.

General Treatment of Hystero-Nervous Disorders.—It would be impossible, in the limits of this lecture, adequately to discuss the various circumstances which should guide us in dealing with the protean forms of nervous disorder to which females are peculiarly liable. I may, however, refer very briefly to some points which I have found important in the treatment of the ordinary phases of hysterical disease.

¹ Phantasmatia or Illusions and Fanaticisms, by R. R. Madden, F.R.C.S., vol. ii. pp. 237, 529, London, 1857.

In such cases our primary study is the removal, by either local or constitutional treatment, of any ovarian or uterine disease or displacement of which the nervous disorder is symptomatic. At the same time, however, I would venture to repeat that, in the majority of the complaints under consideration, local treatment is unnecessary, unless for the purpose of rectifying some well-marked flexion or displacement of the uterus. By constitutional means we may frequently cure uterine disorders productive of hysteria; and hence, under these circumstances, local treatment should be resorted to only when constitutional, moral, and hygienic measures have failed. Foremost among the remedies by which we may hope to diminish the morbid nervous susceptibility or perverted molecular activity of the nerve-centres in hysterical cases are the various nerve-sedatives, more especially the various bromides and nerve-tonics, such as the valerianates of zinc and quinine. Mere hypnotics, such as hyoseyamus and chloral, are of comparatively little value; and narcotics, particularly opium and its alkaloids, are generally worse than useless for this purpose.

In cases of hysteria connected with amenorrhœa, ferruginous tonics may be prescribed in accordance with the special requirements of the case. If the patient's circumstances admit it, a trial should be made of some chalybeate water taken at the source, and preference should be given to a foreign spa. The curative effects of change of climate and the utility of mineral and thermal waters, although obvious in all chronic complaints, are in none so marked as in nervous and hysterical mental disorders connected with chronic utero-ovarian disease. In such cases, by the very journey to a distant health-resort the patient has the benefit of change, not only of climate, but also of occupation and habits of living. The new scenes and variety of places suggest new thoughts, by which the attention of the hysterical and often semi-insane victim of chronic uterine disease is diverted from her morbid and exaggerated sensations; and, ceasing to dwell on her self-created complaints, the latter will probably completely subside.

It may be observed that no cases so much demand the exercise of the highest qualities of the physician as the nervous and mental complications of organic disease, or functional derangements, of the female reproductive organization. In such cases

the gynæcologist must rise above his specialism. He must primarily remove the local disease, or restore the normal state of the disordered function, of which the nervous or mental disturbance is a result; but in doing this he must, as far as possible, avoid increasing the existing hyperæsthesia by any topical treatment which is not absolutely indispensable.

In the treatment of the abnormal nervous and mental conditions which have been referred to in the preceding observations, the physician must strive to act upon the moral as well as the physical constitution of his patients. He must insist on healthy occupation of mind as well as of body, and fit the latter for this by appropriate remedies called for by the special exigencies of each case. If the nervous derangement be consequent on disordered menstruation, this must be, if possible, restored to its normal functional activity. If it results from undue stimulation of the reproductive system, he must point out clearly the physical and moral evils consequent on such abuses.

Finally, in many of the cases of hysterical or mental disorder that come before us in gynæcological practice, and in which we have to act the part of moral counsellors as well as of medical attendants, we may sum up our advice by desiring our patient, in the words of the ancient Salernitan physician,—

“Si tibi deficiunt medici, medici tibi fiant
Hæc tria, mens læta, requies, moderata dieta.”

PART VII.

PELVIC INFLAMMATION AND HÆMATOCELE.

LECTURE XLII.

PERI-UTERINE PHLEGMON.

GENTLEMEN,—In the following observations I shall endeavor to put before you as succinctly as possible the result of my clinical experience with regard to the causes, symptoms, and treatment of those special inflammatory lesions which are frequently met with either in the connective tissue or in the peritoneal folds within the pelvic cavity. To the former of these the term parametritis has been applied by many authorities who restrict the name perimetritis or pelvi-peritonitis to the latter. These terms are, however, not a little misleading, being founded on theoretical distinctions between pathological conditions which, generally speaking, are clinically inseparable; as in such cases the pelvic inflammation seldom long remains either strictly cellular or peritonitic in its situation. Hence in this lecture I shall employ Nonat's original nomenclature, viz., peri-uterine phlegmon, as not only including pelvic cellulitis, or inflammation of the areolar tissue adjacent to the uterus (*i.e.*, in the broad ligaments) or in that between the uterus and rectum, or bladder and abdominal parietes, but also embracing a similar condition of the pelvic peritoneum.

A few years ago a somewhat exaggerated importance was attached to this subject by gynæcological writers generally, who under the terms parametritis and perimetritis in many cases described conditions and symptoms which are now more correctly recognized as the result of Fallopian-tube disease, such as salpingitis, pyo- and hydro-salpinx, etc. Still, a sufficiently large number of cases remain in which we have to deal primarily with inflammation in the cellular or in the serous, pelvic tissues to render

their special and careful consideration an indispensable portion of our present course. The former, or cellular, variety of peri-uterine phlegmon is that most likely to originate from uterine inflammatory causes, traumatic or puerperal, whilst the latter, or peritonitic form, is more commonly consequent on sepsis primarily affecting either the uterus or the Fallopian tubes. Be the origin of this condition what it may, however, in the course of its development both the cellular and the peritoneal structures of the pelvis are liable to become eventually implicated. At the same time the symptoms and result in each instance must obviously be largely modified by the primary cause of the disease and by the special structure of the parts originally or chiefly engaged in it.

Etiology of Peri-Uterine Phlegmon.—In the majority of instances of pelvic inflammation leading to suppuration, the origin of the disease is traceable to puerperal sepsis. In almost as many other cases, however, the septic invasion is consequent on tubal disease, and then most commonly on gonorrhœal salpingitis. Thirdly, although this is denied by some recent authorities, we also, as shown in the cases of this kind that have come under our observation, meet with parametritic inflammation in not a few instances from non-septic causes, such as traumatic and purely inflammatory lesions of the uterus or its appendages, as well as from exposure to cold, external injuries, and the metastasis of inflammation from other parts. Under such circumstances we may have all the symptoms of a peri-uterine phlegmon, which may terminate either in resolution or in localized suppuration in the connective tissue, or pelvic abscess, without any distinct evidence of septic origin or invasion.

The most common causes of this disease are exemplified in the cases of peri-uterine phlegmon which during the present session have been here brought before you. Thus, in one instance the pelvic inflammation supervened on gonorrhœal salpingitis, in another it followed the operative treatment of stenosis by rapid dilatation of the cervix uteri, and in four cases the origin was puerperal. Of the latter the first occurred in a primipara, as the direct sequence of puerperal septicæmia; in the second and third cases, also primiparæ, it was traceable to parturient lacérations of the cervix; and in the fourth no special cause was discoverable. Four of these patients have recovered, and the other

two, one of whom has now been for eighty days in the hospital, will probably also be shortly discharged cured.

Symptoms.—The symptoms of pelvic phlegmon, as I just stated, are essentially modified by the causation of the disease in each instance. Hence we must first consider the evidence of its existence in those cases in which it originates in the extension of traumatic or other inflammatory action from the uterus to the contiguous pelvic structures, and secondly refer to the more frequent instances in which this condition is consequent on septic infection.

In the former, or inflammatory, form of pelvic phlegmon the early stages of the disease are more acute and better marked than in the latter. In such cases, as a rule, the first evidence of that active cell-proliferation and consequent destruction or necrosis of the intra-cellular fibrillar tissue that commonly ends in suppurative changes therein (or pelvic abscess) is the occurrence of well-marked local pelvic sense of fulness and pain, the acuteness of which bears an exact proportion to the extent of peritoneal mischief present, being comparatively dull or obscure where the disease is purely cellular. Together with these local discomforts, there are also present general pyrexia, rapid rise of temperature and pulse, and rigors, the cause of which becomes apparent on recto-vaginal examination, by which, even at this early stage of pelvic cellulitis, a distinct peri-uterine tumefaction, extremely tender on touch, may be generally discovered in the retro-vaginal cul-de-sac or extending upward externally in the iliac or hypogastric region. After a few days the acute febrile disturbance generally subsides, and the disease passes into the subacute or chronic stage, to which it has probably already attained before it is recognized in the more general or septicæmic form. If the complaint be of this kind the early symptoms are more obscure, the most important being the occurrence of rigors, rapid alternations of high and low temperature, some degree of obscure intra-pelvic discomfort, pain and inability of motion in the thighs, and more or less rectal or vesical irritation occasioned by the increasing development of the pelvic tumefaction, the position and extent of which are thus pointed out, and may be recognized on local examination in the vicinity of the cervical zone of the uterus.

In such cases, as a rule, as McClintock remarked, there is little

acute pain, but always considerable tenderness on pressure over the seat of inflammation, which gradually passes into the chronic stage, in which it may continue for weeks before terminating, either, as it may possibly do in some instances, in resolution, or, as far more commonly happens, in suppuration, the occurrence of which is denoted by increased pain and tenderness, together with acceleration of the pulse, loss of appetite, emaciation, occasional chills, and night-sweats. The general condition of the patient closely borders on, if it does not actually amount to, that of hectic fever. If this stage be of long continuance the patient will be reduced to a state of great marasmus, from which recovery would scarcely seem to be possible. Troublesome diarrhœa is not infrequently present at this period, and helps to weaken and exhaust the physical powers. In the mean time the tumor is found to be enlarging in size, becoming more painful and fluctuating, and ultimately points and either discharges itself externally in the iliac regions or above the pubes, or else is evacuated through the vaginal wall into the rectum or bladder.

Diagnosis.—In reference to the differentiation of peri-uterine phlegmon from other pathological conditions with which it may be confounded, the special predominance of either cellular or peritoneal inflammation in each case must be borne in mind. Thus, if the phlegmon be clearly of the latter character, or originating in tubal or ovarian causes, its most common result, when not terminating in resolution, will be the formation of a pelvic abscess, which eventually may open into any of the hollow viscera within this cavity, and which before that occurs may require no little care to be distinguished, by a properly conducted physical examination and by the history of the case, from pyosalpinx, pelvic hæmatocele, and ectopic gestation, as well as from retro-uterine fibro-cysts, abscesses from visceral or spinal disease, and other intra-pelvic tumors. If, on the other hand, the peri-uterine phlegmon be primarily cellular, although it may possibly eventuate in intra-peritoneal as well as pelvic suppuration, its usual issue will be ex-pelvic, the purulent collection then very commonly pointing externally, either in the iliac or hypogastric region or on the pelvic floor, in each of which situations it must be distinguished from other abscesses that may be found there.

The exact differentiation of the peritoneal and cellular forms

of peri-uterine phlegmon from each other is a question more easily decided on paper by the compilers of text-books than generally it will clinically be found by the practitioner. A matter of far greater consequence is their common diagnosis from pyosalpinx, pelvic hæmatocele, and other pathological conditions with which either form of this disease is liable to be mistaken. The most important of these are pyosalpinx and pelvic hæmatocele. The diagnosis of the former has been sufficiently described in a preceding lecture, and need not be here reiterated. From pelvic hæmatocele the differentiation of the cases now under consideration rests mainly on the more chronic clinical history of the pelvic phlegmon, and the situation, form, and other physical characteristics of the tumor, as well as on the nature of its contents. With regard to the latter, therefore, if, having first ascertained the existence of fluctuation in the pelvic tumefaction by digital examination, any doubts still remain on this point, the question may be readily determined by the use of a fine aspirator-needle, in which way the sanguineous or purulent contents of the tumor can be at once ascertained, and its true character either as a pelvic abscess or a hæmatocele be definitely pronounced.

Treatment.—In dealing with a peri-uterine phlegmon our *modus medendi* obviously should be conducted on those familiar general principles which are applicable to all other inflammatory diseases, and which have been tersely summarized by Dr. Leishman as the “arrest of inflammation, the promotion of absorption, and the discharge of pus when an abscess has actually formed.” The methods by which these objects may be best accomplished in the cases now under consideration must be mainly determined by the causation and the seat of the disease, as well as by its stage and the special symptoms present in each case. Referring first, therefore, to the ordinary cellular form of peri-uterine phlegmon, it may be premised that in the treatment of a disease, as a rule, so chronic in its course as this, and one, moreover, of which, when judiciously treated, the ultimate issue is so generally favorable, the practitioner should rely largely on the curative influence of the *vis medicatrix naturæ*. In other words, his best adjuncts are time and patience, together with absolute rest, until, either by resolution or by suppuration, the disease subsides. Meanwhile he may find ample scope for his skill in relieving pain, obviating

complications, and supporting his patient's physical strength and confidence of recovery during a period of suffering which in such cases may be protracted over many weeks. With the view of arresting the pelvic inflammation in the acute stage of a peri-uterine phlegmon, local depletion by means of leeches, of which from three to six may be applied either to the groin or to the congested cervix uteri in these cases, is, generally speaking, serviceable. This practice is one the value of which I first learned from McClintock in the Rotunda Hospital many years ago, and since then have employed with equal advantage in my own practice. From that experience, therefore, I would confidently recommend the use of leeches to your adoption, except when specially contra-indicated, as the best means of removing the local hyperæmia and blood-stasis in the early stage of the disease and so possibly aborting its further progress, or, failing this, even then affording a generally effectual method of relieving symptoms and abating the intensity of such pelvic inflammations. Next to leeching, I rely on warm hip-baths given each night and local hot-water douching by the vagina and rectum twice or thrice daily during the course of the disease, together with poulticing and stuping of the lower abdomen, as the most efficient means both of favoring resolution in the early stage of peri-uterine phlegmon and of promoting the discharge of suppuration where this subsequently becomes inevitable.

If during this process acuteness of pain and consequent loss of rest render it necessary, sedatives must be freely resorted to, and the changes may be rung on the various preparations of opium and morphia, whether by the mouth, by rectal suppositories, or by hypodermic injection, or by the use of the various other familiar hypnotics and sedatives, such as the bromides or bromidia, chloralamid, sulphonal, etc., each of which in turn you may too often have the opportunity of trying the merits of in the long course of these cases. Any specific medical treatment in a disease such as peri-uterine phlegmon is out of the question, nor can it be necessary that I should occupy time here by a recapitulation of those general antiphlogistic therapeutics and dietetic directions which in such cases must in the first instance be adopted, or of the subsequent tonic and supporting measures which in this as in all other similar chronic or subacute com-

plaints must be followed. At the same time, however, I may observe that, as I am a believer in the old but none the less true doctrine of the utility of mercury and iodide of potassium in arresting or modifying inflammatory action, I always prescribe one or the other, and often both, in these cases. The former I generally give in small and long-continued doses, such as a grain of gray powder or of Plummer's pill, in combination with two or three grains of quinine or five grains of phenazone, thrice a day, as long as the temperature and pulse remain above normal in cases of peri-uterine phlegmon, unless from some special circumstance or personal idiosyncrasy this should be contra-indicated.

With regard to the treatment of the suppurative stage of the disease opinions differ widely as to the expediency of evacuating the abscess as soon as possible or leaving its discharge to nature. The former was the method advocated, as a rule, by the older writers, whilst the latter is that now more generally favored. On this point, however, as on all other similar questions, our practice should be guided not by the dicta of authorities, old or modern, but by an intelligent appreciation of the pathological condition with which we have to deal, the situation of the purulent collection, and the urgency of the symptom in each instance. Thus, in the case of an abscess of parametritic origin pointing in the iliac or hypogastric region or elsewhere externally, there can be no question as to the propriety of its immediate evacuation, whilst in the case of a chronic circumscribed pus-formation clearly and wholly within the pelvic connective tissue the expectant line of treatment, unless specially contra-indicated by some septicæmic or other urgent symptoms, is unquestionably the best and safest practice. If, on the other hand, an abscess due to a peri-uterine phlegmon, whether extra- or intra-peritoneal, be distinctly septic in its origin or connected with tubal disease, the dictates of common sense as well as the consensus of modern opinion, as ably summed up by Drs. Mundé and Wells, favor the early evacuation of pus by incision per vaginam or by laparotomy and drainage, the choice of the method being governed by the conditions present in the cases, laparotomy being always favored when there is a probability that the appendages are involved in the trouble. In some instances where the pelvic abscess was accessible per vaginam I have found the employment of the

aspirator, through which, after evacuation of the pus, the pyogenic cavity may be washed out with peroxide of hydrogen, a perfectly satisfactory method. When, however, in the cases now referred to, that object cannot be easily accomplished by vaginal methods, there should be no hesitation in affording an escape for peri-uterine pus-collections by abdominal section. In whatever way a pelvic abscess may be discharged, its complete evacuation and the subsequent cleansing and drainage of the abscess-cavity under aseptic conditions are equally essential. Nor is it necessary to enlarge here on the obvious fact that under such circumstances the patient's strength and constitutional condition should be supported as far as possible by suitable nutrition, stimulants, and tonics.

LECTURE XLIII.

PELVIC HÆMATOCELE.

GENTLEMEN,—Among the various conditions with which the disease described in the last lecture is liable to be confounded, probably the most important is pelvic hæmatocele,—viz., a circumscribed collection of blood-effusion wholly or partially situated within the pelvic cavity, either in its peritoneal or in its cellular structures. In the first, or intra-peritoneal, form of hæmatocele the effusion, as a rule, results from rupture of an ectopic gestation, whilst in the second, or extra-peritoneal, class of cases, although it may be also due to a similar cause, the source of the hæmatoma is more frequently traceable to menstrual abnormalities. Of these two distinct classes of pelvic hæmatocele the intra-peritoneal form is obviously, from its anatomical situation as well as from its general cause, by far the most serious in its consequences, and must therefore in the first instance be here noticed.

INTRA-PERITONEAL HÆMATOCELE.

Its Causes.—For our present knowledge of the pathology and treatment of this condition we are chiefly indebted to Mr. Lawson Tait, by whom it has been clearly established that such cases, as a rule, are dependent on the rupture of tubal gestations, and may

then be successfully treated by timely resort to intra-peritoneal surgery. On the former point, as the result of his exceptionally large experience, Mr. Tait states that he has "never seen an intra-peritoneal hæmatocele that was not due to a ruptured tubal pregnancy, and very many cases of extra-peritoneal hæmatocele (effusions of blood into the broad ligaments) have undoubtedly been tubal pregnancies which have ruptured between the peritoneal folds of that important structure."¹ The same view has been corroborated, among other recent writers, by Dr. Auvard, of Paris, who says that nineteen out of twenty of these cases are thus consequent on ectopic gestation.²

As, however, the fuller consideration of extra-uterine pregnancy will form the subject of another lecture, it will be here referred to only in so far as it bears directly on the subject of intra-peritoneal hæmatocele. Of the several forms of ectopic gestation, such as ovarian, abdominal, tubo-uterine, or interstitial and tubal, enumerated by some authorities as possible causes of hæmatocele, the last mentioned alone calls for serious consideration in this connection, inasmuch as the facts recorded by Tait leave no room for doubt that the seat of the ectopic gestation is almost invariably tubal in such cases. "I have," he says, "now been concerned directly or indirectly in the post-mortem examinations of twenty-six women who have died from hemorrhage into the peritoneum (intra-peritoneal hæmatocele) from ruptured ectopic gestation. I have had to operate forty times for the same cause, and I have witnessed about ten similar operations by other surgeons, making in all the unique experience of seventy-six cases. In every one of these the seat of pregnancy was ascertained to be without doubt the Fallopian tube, and in only one was the seat of pregnancy in that part of the tube embraced by the uterine tissue."³

In cases of intra-peritoneal hæmatocele resulting from extra-uterine pregnancy the rupture of the gestation cyst occurs during the early development of the misplaced embryo, or before the fourth month, generally during the first and second months, and hence, as a rule, before the existence of pregnancy, and still less

¹ Lawson Tait. Lectures on Ectopic Gestation and Pelvic Hæmatocele, p. 25.

² Auvard, *Traité Pratique de Gynécologie*, Paris, 1892.

³ Tait, *op. cit.*

its abnormal character, has been recognized. At a later period both become evident, and the rupture then of the ectopic gestation cyst leads not to hæmatocele, but to immediate death from shock and hemorrhage, unless that event be averted by timely and successful surgical interposition. The circumstances calling for this and the methods by which it may be accomplished do not, however, come within the scope of the present lecture, in which we have to deal only with those less immediately serious hemorrhagic effusions consequent on rupture of such gestation cysts in their earlier stage, resulting in hæmatocele. By various writers on this subject, besides ectopic gestation many other sources of intra-peritoneal hæmatomata have been described, including, *inter alia*, direct hemorrhagic exudations from the peritoneum or from the ovaries and Fallopian tubes, whether consequent on the bleeder diathesis or on local hyperæmia or congestive disease of these structures. Traumatic cases of this kind following intra-peritoneal operations or injuries may also be met with, as well as others ascribable either to a varicose condition of the utero-ovarian veins or to cystic malignant disease and other structural lesions in the ovary, such as active congestion or apoplexy therein, leading to extravasations of blood from the engorged vessels. Most of these conditions, however, should be included in the long list of circumstances that were formerly but are now no longer generally regarded as frequent causes of the disease under consideration.

The same observation may be applied to the alleged influence in this way which has been ascribed to rupture of a Graafian vesicle elsewhere than into the Fallopian tube, in reference to which Dr. Graily Hewitt says, "If a Graafian follicle does not rupture, as it should, into the Fallopian tube, hemorrhage takes place within it; it enlarges from continuous bleeding and ruptures. Should the bleeding be profuse, an intra-peritoneal hæmatocele would be produced." The possibility of that result is unquestionable, but its probability in such cases is quite another matter, and is opposed to the teachings of recent authorities on this subject, by which it has been shown that ovulation and menstruation are not always and necessarily coincident, the former taking place intra-menstrually as well as during the catamenial periods, at which alone, the fimbriated extremities of the tube being applied to the ovary, the matured ovisac ruptures into and

is transmitted through that duct; whilst at other times when the ovisac ruptures the ovum escapes into and perishes within the peritoneal cavity. If, therefore, the latter event is to be regarded as a physiological occurrence, it can hardly at the same time be considered so likely as was supposed by Schroeder and Hewitt to lead to the grave pathological condition we are now discussing.

Symptoms.—In these instances it usually happens that the first symptoms calling attention to an ectopic gestation are those indicating rupture of the tube. This occurrence is denoted by an acute attack of cramp-like spasms in the lower abdomen, accompanied by rigors and fixed localized pain in the situation of the ruptured gestation cyst, and immediately followed by faintness, rapid, thready pulse, pallor of surface, coldness of extremities, jactitation, and other evidences of collapse from loss of blood. After a while, if the immediate hemorrhage be not such as will prove speedily fatal, the effusion is temporarily checked by clotting and shrinkage of the ruptured vessels, and reaction is gradually established, and may be maintained for some hours or days. This respite is, however, usually a very brief one in these cases, and eventually, and probably consequently on the first attempt at any active motion, the hemorrhage and other symptoms return in an aggravated degree. The abdomen is now found tender on touch as well as distended by a fluctuating tumefaction, the extent and character of which are dependent on the amount and situation of the sanguineous effusion in each case. Generally speaking, however, the tumor thus occasioned not only is apparent in the lower portion of the abdominal cavity,—viz., in the iliac and hypogastric regions,—but also presses down into the retro-uterine cul-de-sac and on the vaginal vault, the convexity of which is thus bulged in, and through which on local examination its soft fluctuating characteristics and somewhat ill-defined outline may be recognized.

Treatment of Intra-Peritoneal Hæmatocele.—It is needless to occupy time here with any reference to those wholly ineffectual measures, such as styptics, ergot, opium, iced-water injections, etc., upon which until the past ten years practitioners were perforce content to rely during the interval between the intra-peritoneal rupture of an ectopic gestation and the then too generally inevitable consequent death of the patient. That period of sur-

gical blindness has now passed away, and by the light of modern teaching we have at last come to recognize the simple fact that the successful treatment of a case of intra-peritoneal hæmatocele from rupture of an ectopic gestation cyst can be obtained only by immediate recourse to abdominal section, ligation of the source of hemorrhage, and removal of the tubal gestation cyst, followed by thorough cleansing away of all foci of sepsis in the peritoneal cavity.

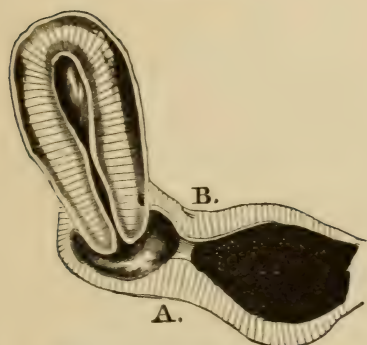
Briefly as this only rational method of dealing with such cases may be thus recapitulated, that idea was carried out only after many years from the time of its suggestion by Burns of Glasgow in 1814, and again by Blundel in 1830, down to its first successful realization by Tait in 1883. It would, however, be needless here to refer further to the operative treatment of ectopic gestation, the details of which may be found in Tait's writings and more briefly in a subsequent lecture.

EXTRA-PERITONEAL HÆMATOCELE.

We have now to consider that less serious but more frequent class of pelvic hæmatocele in which the effusion is chiefly situated in the broad ligament or in the connective structures adjoining the uterus, into which an early tubal gestation may rupture as well as into the peritoneal cavity. The symptoms of that accident will be of a similar character in both instances, although far less acute in the extra-peritoneal or broad-ligament variety, the effusion from which is comparatively limited and most likely to result in the ordinary chronic form of pelvic hæmatocele, the treatment of which, as a rule, may be better trusted to nature than to art. In the larger number of cases, however, this form of pelvic hæmatocele results from some menstrual derangement, such, for instance, as the sudden suppression of normal menstruation or of menorrhagia by cold or other causes, or else from obstructive amenorrhœa and dysmenorrhœa due to cervical stenosis, by one or other of which the free discharge of the catamenial fluid *per vias naturales* may be arrested, impeded, or rendered difficult. The occurrence of intra-pelvic sanguineous effusion is still more likely to ensue from structural abnormalities,—viz., deficiency or occlusion, congenital or acquired, of any portion of the utero-vulval passage, leading primarily to

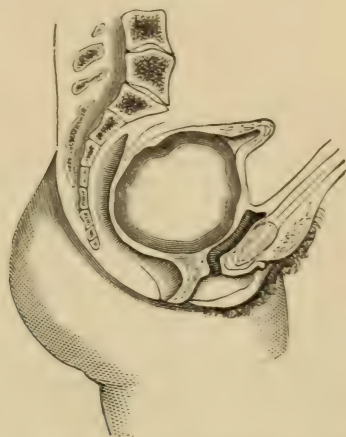
hæmatometra, or accumulation of pent-up menstrual fluid in the uterine cavity, and secondly to its escape thence through the Fallopian tubes and so eventually into the pelvic connective tissue and into the retro-uterine fossa. In other instances the starting-

FIG. 256.



Congenital occlusion of the vagina (Emmet).

FIG. 257.



Origin of pelvic hæmatocele in case of hæmatometra from vaginal atresia (after Schroeder).

point of such pelvic hæmatoceles is distinctly tubal, the effusion being directly poured out from the vessels in the oviduct, and so finding its way through the abnormally distended fimbriated extremities.

The immediate exciting causes and consequent symptoms of extra-peritoneal pelvic blood-tumors must next be spoken of, and in so doing we may here avail ourselves of some of McClintock's clinical observations on this subject, to the accuracy of which I was myself, when his pupil, an eye-witness, and which have been over and again borrowed, though without any acknowledgment, by subsequent writers. Of the exciting causes thus referred to the most important are sudden suppression of the catamenial discharge, violent bodily efforts or intense mental emotion, over-fatigue, excessive or rude coition, sexual congress at the menstrual period, external injuries to the abdomen, premature exertion after miscarriage, violent straining. Physiology teaches us, and experience abundantly confirms it, that the menstrual epoch is the

time at which the extravasation is most easily produced, and that an exciting cause which would at any other time prove harmless may then provoke it.

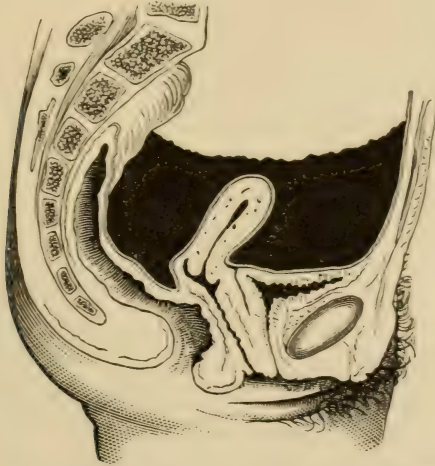
Symptoms.—The leading symptoms which present themselves after the occurrence of this accident are hypogastric pain and tenderness, with febrile action, succeeding to menstrual derangement, sometimes amenorrhœa, but more frequently menorrhagia preceded, perhaps, by a temporary suppression of the menstrual discharge. A tumor suddenly develops in the hypogastric or iliac region or behind and partly below the neck of the uterus. This tumor at first is soft and fluctuating, but at a later period has more firmness. Tenesmus and irritability of the bladder are frequently present also.

Diagnosis.—In this extra-peritoneal form of pelvic hæmatoma due to menstrual causes the symptoms, as a rule, develop very gradually, and are frequently so obscure in their inception and subsequent course as to give rise to much practical difficulty in their differentiation from other pathological conditions in the same situation, and, above all, in their diagnosis from peri-uterine phlegmon or pelvic abscess. The size and position of the blood-tumor in cases of extra-peritoneal hæmatocele must, as has been observed with reference to the intra-peritoneal form of effusion, depend mainly on the quantity of blood extravasated. Anteriorly a large hæmatoma may be recognizable in either the iliac regions or above the pubes; posteriorly the tumor presses on the vagina and rectum. As the result of pressure on the vagina, this canal is encroached upon, and a prominence is formed on its upper and posterior part, offering some hinderance to our reaching the os uteri with the finger. The cervix is displaced forward and against the symphysis pubis or to either side, as shown in the following illustration taken from Hart and Barbour's excellent "Manual of Gynæcology."

The existence of this tumor as well as its size and situation can be readily determined on a properly-conducted conjoint or bimanual examination of the rectum and vagina and above the pubes, though whether its contents be sanguineous, serous, or purulent cannot definitely be thus settled, and on this point to a large extent must rest our conclusions on the history and general symptoms of the case. The rapidity of its occurrence will con-

stitute a strong ground for supposing the tumor to be a hæmatocele. Another important character belonging to the hæmatomic tumor is that, as also was pointed out by McClintock, "it presents a succession of changes in its density, and consequently in the

FIG. 258.



Pelvic hæmatocele, copious blood-effusion, ante- and retro-uterine (Hart and Barbour).

sensation which it communicates to the touch. Soon after the effusion has taken place there is a more distinct sense of fluctuation in it than at any subsequent period. Some days later this is replaced by a doughy feel, and still later the tumor has an increased density, hard in some particular spots and fluid in the parts adjoining, owing to the separation of the coagulum into solid and serous portions."¹

Treatment of Extra-Peritoneal Blood-Tumors.—In no respect is the contrast between intra-peritoneal and extra-peritoneal blood effusions or pelvic hæmatocele more striking than in the very different methods of treatment required by the two classes of cases. In the former, prompt, bold, and skilful operative interference by abdominal section is imperative; in the latter, as a rule and under ordinary circumstances, that measure is wholly uncalled for. In considering the treatment of this condition its two chief probable causes must be borne in view,—namely, first,

¹ McClintock, *Clinical Memoirs on Diseases Peculiar to Women*, p. 254.

ectopic gestation rupturing into the broad ligament, and, secondly, obstructed menstruation. In the former class of cases, however, the necessity for active surgical interference comparatively seldom arises. In such instances, as Tait says, "in the act of rupture the ovum is usually destroyed, and the case then resolves itself into one of simple broad-ligament hæmatocele, which is to be left severely alone; it will be absorbed, but the convalescence will be long. These cases should not be molested. Many a man has bitterly regretted having tapped them, because, if the hæmostatic effect of the pressure be thus lessened, the cyst will refill, and the woman will die as surely from loss of blood as if the hemorrhage had taken place into the peritoneum. The cases that go wrong are those that are injudiciously interfered with. If the blood is absorbed there is an end of the matter. Sometimes, however,—perhaps once in ten of the cases,—the ovum is not killed, the hemorrhage being smaller; it then goes on developing."

In the second class of extra-peritoneal hæmatocele—viz., that in which the origin of the infusion is menstrual—its early symptoms are, as a rule, so ill defined and obscure that the case has generally passed into the chronic stage before its nature is recognized. Hence the directions laid down in various text-books for arresting the hemorrhagic effusion, such as the application of ice over the pubes and abdomen, iced-water injections into the vagina and rectum, absolute rest, gallic acid, ergot, opium, etc., are seldom available, and, even if they were available, would probably be utterly useless. When the case generally comes under observation,—viz., when active effusion has ceased and the resulting blood-tumor alone remains to be dealt with,—the obvious indications are to promote the absorption of the hæmatoma, and in the mean time, whilst maintaining the general health of the patient, to prevent, if possible, any pyogenic changes in the blood-collection and obviate any local complications or pressure-troubles thus occasioned. For the first purpose we must trust mainly to nature and time, as there is probably no remedy by which this object can be effectually secured or even certainly hastened. Nevertheless, I think I have seen the absorption of a hæmatocele apparently somewhat accelerated by the combination of bichloride of mercury with iodide of potassium given in tincture of bark, which, both for that purpose and as a tonic, is almost invariably prescribed in

the cases of this kind treated in my wards. If the tumor be not absorbed, however, within a short time, it almost invariably creates irritation or inflammatory action in the adjacent organs, and sooner or later becomes itself the seat of suppurative changes giving rise to constitutional disturbance (septicæmic or otherwise), and is ultimately converted into a sanguino-purulent collection, which, following the course of the pelvic abscess described in the last lecture, may burst into the vagina or into either the rectum or the bladder. In those instances of subperitoneal hæmatocele in which operative interference is thus necessitated by the exceptional urgency of the symptoms, that treatment may be more effectually and probably more safely carried out by abdominal section than by the older methods of vaginal incision or of puncture with the aspirator, over which laparotomy affords greater facility for dealing with the tubal or other local cause of the effusion, as well as for more thoroughly effecting the complete evacuation of the blood-collection, with less probability of consequent sepsis.

PART VIII.

THE DISEASES AND ABNORMALITIES OF PREGNANCY.

LECTURE XLIV.

DISORDERS CONNECTED WITH EARLY PREGNANCY.

GENTLEMEN,—Among the cases under treatment in the gynæcological dispensary of this hospital you have had abundant opportunities of observing the various complaints that may be connected with or modified by pregnancy, or by which uterogestation may be simulated or obscured. In our concluding lectures I shall, therefore, endeavor to put briefly before you some information concerning the most frequent or important of these disorders, and in so doing shall illustrate my remarks by reference to cases that have come clinically before you, and also avail myself of my previous observations in Quain's "Dictionary of Medicine" and of my recent lectures in the *Medical Times and Hospital Gazette* on this subject.

Of the complaints thus included, the following recapitulation will probably be sufficient,—viz., (1) the sympathetic, or reflex, gastric, mammary, and cerebro-nervous derangements of early gestation; (2) ptyalism and icterus; (3) abortion; (4) retroversion and other displacements of the gravid uterus; (5) pudendal affections,—i.e., pruritus, œdema, and hæmatocele of pudenda; (6) œdema of extremities; (7) hemorrhoids; (8) cramps; (9) albuminuria and eclampsia; (10) ectopic gestation; and (11) pseudocyesis. It would be impossible to discuss so wide a range of subjects within our present limits, and I shall therefore here confine myself to such of them as are of most practical interest from a clinical point of view. Moreover, the foregoing enumerations of the maternal diseases connected with pregnancy might be indefinitely extended if, in accordance with the plan adopted by some obstetric authorities, we were to include constipation, diarrhœa, cardialgia, headache, insomnia, palpitation, and hyper-

trophy of the heart, which, however commonly they may occur in pregnant women, are obviously by no means peculiar to them, and hence do not require special notice in this connection. It also would be superfluous to again refer *in extenso* to the various displacements to which the gravid uterus is liable, and which have been described in my previous lectures, or to enter on full details of the numerous sympathetic disturbances of the nervous system, such as longings, morbid or depraved appetite, hysterical irritability, nervous pains, odontalgia, etc., which sometimes attend gestation, and which may be regarded as symptoms rather than included among the diseases of pregnancy.

Morning Sickness and Pernicious Vomiting of Pregnancy.—By far the most prominent of all the complaints of early pregnancy is nausea or retching, usually confined to the forenoon and continuing from the second or third week after conception until the period of quickening. The ordinary sickness of pregnancy is generally attended by no loss of appetite or impairment of health, and may thus be distinguished from vomiting caused by gastric or other diseases. In some exceptional instances, however, this usually comparatively trivial complaint assumes a graver aspect, and, in what Dr. Parvin well terms its “pernicious” form, occasionally persists through the whole term of gestation, harasses the patient by continual retching, and, as occurred in one case which came under my notice, may even cause death from exhaustion.

Etiology.—The causation of morning sickness is a subject on which much ingenuity, ancient and modern, has been wasted, the fact being that this symptom occurs under such varied conditions and from such a variety of causes as to render any universally applicable generalization on this subject impossible. Of the older explanations of this symptom that of Smellie prevailed longest, and was probably as good as any other. “This complaint,” he says, “is chiefly occasioned by fulness of the vessels of the uterus, . . . which being stretched by the ovum, a tension of that part ensues, affecting the nerves of that viscus, especially those that arise from the sympathetic maxima and communicate with the plexus at the mouth of the stomach.” In recent times a somewhat generally accepted doctrine on this subject would seem to be that such sickness is usually ascribable to displacements of the uterus, which were regarded by Dr. Grailly Hewitt as “the

almost universal cause of the vomiting of pregnancy." The same writer, whose views, however, have been since controverted, insists that "it is the compression undergone by the uterine tissues (markedly by the nervous fibres at the seat of the flexion) which is the cause of the nausea and sickness."

Treatment.—The treatment of this complaint must obviously be to a large extent dependent on the severity of the symptoms and the period of pregnancy at which they occur, as well as the constitutional condition of the patient and the existence of any flexion or other local cause. But under ordinary circumstances and in ordinary cases the "morning sickness" of early gestation may be prevented or relieved by the patient's remaining in bed until the usual period for its recurrence has passed over, whilst her diet should be light and digestible, such as dry toast and cold chicken for breakfast or lunch, with as little fluid as possible, especially avoiding all warm drinks, such as tea, and the bowels should be regulated by mild antacid aperients or effervescing salines. At the same time some of the so-called gastric specifics may be ordered, such as ingluvin, lactopeptine, and other pepsine or papaine preparations; whilst in the way of other medicine oxalate of cerium or salol in two-grain, phenol in one-grain, or cocaine in half-grain doses, or the hypodermic exhibition of morphia, or dilute hydrocyanic acid in two-drop doses, in draughts with soda and calumba, may be tried. It would be useless to refer further to the long list of less valuable remedies that have been suggested in the treatment of the obstinate vomiting of pregnancy, or to the local measures, including dilatation of the os or cervical canal or zone, which was long since suggested by Dubois and revived in our own time, or to the application of cocaine to the cervix, which has been recently recommended in such cases.

In some instances, especially when in multiparæ the ligamentous and other supports of the uterus are so relaxed or impaired as to favor any marked descent of the gravid uterus during the first weeks of pregnancy, the accompanying persistent sickness and retching may be relieved by raising the prolapsed organ by the support of a glycerin tampon, as was suggested by the late Dr. R. Kirkpatrick, of Dublin.

Formerly blood-letting was commonly resorted to in the treatment of severe vomiting occasioned by pregnancy, and under

these circumstances was thus much abused. Notwithstanding this, and despite the desuetude of venesection in modern practice, I would not hesitate in any suitable case of otherwise uncontrollable vomiting connected with pregnancy and occurring in a gravid woman of full plethoric habit to have recourse to the withdrawal of six or eight ounces of blood from the arm. At the same time, as the majority of junior practitioners of the present day might possibly find some difficulty in performing that simple operation with dexterity or efficiency, I would advise you, if in that predicament, and called on to treat a case of the kind referred to, to content yourselves with endeavoring to lower the blood-pressure by saline laxatives.

Finally, if, notwithstanding all such measures as I have just mentioned, the pernicious sickness of pregnancy should continue to such an extent as to endanger the life of the patient from the exhaustion thus caused, then one of the gravest questions in gynæcological or obstetric practice and ethics will arise,—viz., the propriety of inducing premature labor. Under no circumstances should we ever resort to so serious a measure without the fullest deliberation and the fullest consultation available: in all cases such an operation should be deferred as long as may be consistent with the safety of your patient, and in fixing a period for its performance due regard also should always be given to the possible viability of the fœtus.

Continuing our brief survey of the complaints incidental to the earlier months of pregnancy,—

Ptyalism may be mentioned as being among the most common though least important of these, and one which, as a rule, demands little special treatment. In exceptionally troublesome cases, however, the excessive salivation thus occasioned may be controlled by the local use of tanno-glycerin and astringent gargles, especially chlorate of potash in infusion of bark, or, where these fail, by the application of a few leeches to the submaxillary glands.

Mastodynia.—In most instances one of the earliest symptoms of pregnancy is a certain amount of prickling, tingling, or shooting pain and tumefaction in the breasts, consequent on the intimate sympathy between the uterus and mammae and the physiological structural changes both undergo after conception. Occa-

sionally, however, and more especially in neurotic patients, these ordinary or physiological mammary sensations become so intensified as to assume a more serious, or pathological, form, giving rise to an intensity of suffering calling for immediate treatment, and may terminate in acute mastitis and mammary abscess if not thus relieved. In such cases we may best succeed in preventing this result by the local application to the breasts of extract of belladonna thinned down with glycerin, or by strapping the painful and tumefied glands with belladonna plaster and uplifting their weight by the use of Duke's spiral breast-supports. In the way of general treatment, in addition to light diet, rest, and saline purgatives, the pain, especially in neurasthenic cases, may be relieved by the administration of antipyrin, or, as it is officinally called, phenazone, in small—*i.e.*, five- or ten-grain—doses two or three times a day.

Pica, or Depraved Appetite.—I have already referred to the sympathetic gastric disturbance commonly evinced by the occurrence of morning sickness shortly after conception, at which time also, as was long since pointed out by Churchill, when the sympathetic irritation is most marked, the appetite usually diminishes, or is altogether lost, and the patient becomes weak and emaciated; but after the third or fourth month, when the stomach is less disturbed, the desire for food generally returns, and in some cases becomes voracious. A more remarkable peculiarity is the deprivation of appetite we sometimes meet with, when the patient either utterly repudiates articles of diet of which she was previously fond, or acquires tastes repugnant to her previous habits, or even to common sense, and revolting. The older writers abound in curious stories of the *longings*, as they are termed, of pregnant women; nor are they unknown in modern times, though, fortunately, not often nowadays to the same extent. Thus, for instance, Roderick a Castro relates a case of a woman who took a fancy to a bite of a baker's shoulder, nor could she be satisfied until the baker's consent was purchased; and Langiers mentions a woman whose husband was the object of her morbid appetite, to gratify which she killed him, and, having made a meal of part, she salted the rest. Others have no less eagerly devoured sawdust, broken stones, pepper, ginger, brown paper, or chalk, as, for example, in the following case related by another old writer, Dr. Dewees, who

says, "We formerly attended a lady with several children, who was in the constant habit of eating chalk during her whole time of pregnancy : she used it in such excessive quantities as to render the bowels almost useless. We have known her many times not to have an evacuation for ten or twelve days together, and then only procured by enemata ; and the stools were literally nothing but chalk. Her calculation, we well remember, was *three half-pecks* for each pregnancy. She became as white nearly as the substance itself, and it eventually destroyed her, by deranging her stomach so much that it would retain nothing whatever upon it."

Treatment.—With regard to the graver forms of morbid appetite above referred to there can be no question that everything opposed to common sense or likely to prove prejudicial to health must be withheld from any patient, whether pregnant or not. At the present day it is hardly necessary to reiterate that, as has been observed by every writer since Merriman, these cases tend to prove, what no man who has had opportunities of observation has ever doubted,—viz., that the popular doctrine is false and indefensible which teaches that pregnant women should be allowed to indulge all the capriciousness and wanton absurdities of their appetites ; it being most certain that, however safe and uninjurious some of the articles of diet longed for may be, others cannot be taken without danger of hurting either mother or child. At the same time there can be no harm in gratifying the tastes of the patient as far as may be safely feasible, by the avoidance of whatever articles of diet she may have any special repugnance for, or in the use of any suitable nutriment for which she may exhibit a special predilection ; since such tastes, as Dr. Leishman remarks, not unfrequently point to the class of diet which agrees best with the patient. In the way of medicine I have found no remedy so effective in relieving the hysterical condition on which the depraved appetite referred to is generally dependent as ammoniated tincture of valerian.

Gastrodynia and pyrosis, or water-brash, are occasionally among the evidences of gastric irritation immediately consequent on impregnation, although they are of still more frequent occurrence and more troublesome during the latter months of pregnancy. These cases, being, however, amenable to the same general treatment during gestation as under other circumstances,—namely, by suita-

ble regimen, avoidance of stimulants, the use of hot water as a diluent, attention to the bowels, and alkaline medicines, such as Wyeth's tabloids of soda mint, or the old-fashioned combination of bismuth and soda in infusion of calumba,—call for no detailed consideration in this connection. The same observation is also equally applicable to jaundice, constipation, leucorrhœa, and various other complaints usually enumerated among the diseases of pregnancy. Without further reference, therefore, to these accidental disorders of gestation, I shall now pass on to some of the graver special complications, which will form the subject of our next lecture.

LECTURE XLV.

DISEASES AND ABNORMALITIES OF EARLY PREGNANCY (CONTINUED): ABORTION AND DISPLACEMENTS OF THE GRAVID UTERUS.

GENTLEMEN,—In our gynæcological wards, in the course of uterine and other diseases complicated by pregnancy, your attention has been frequently called to the fact that the normal duration of utero-gestation, which, as you are aware, is two hundred and eighty days, or nine calendar months, dated from the patient's last menstrual period, is liable to be interrupted at any moment after conception by the premature expulsion of the foetus. To that mishap, when occurring before the seventh month, the terms "miscarriage" and "abortion" are equally applicable, whilst delivery between that time and the completion of the ordinary period of pregnancy is generally described as premature labor. This classification, which is based on the presumed non-viability of the foetus in the former case as contrasted with its probable viability in the latter, is, however, by no means strictly accurate. For, a child born at the seventh or eighth month frequently proves non-viable, whilst a foetus *expelled* in the earlier months, and even, as I have myself seen, one so expelled before the end of the fifth month, may, for some time at least, possibly be found viable. Nevertheless, for all practical purposes, the division of immature births into these two classes—viz., first, abortions or miscarriages, and, secondly, premature labors—is probably the

best that can be suggested. In the present lecture we shall confine ourselves to the causes of abortion as observed in gynæcological practice. According to the statistics of Mr. Whitehead, abortion occurs once in every seven pregnancies, but its frequency, as I shall subsequently show, is probably far greater. The time thus occupied will not be unprofitably employed if from a sufficient acquaintance with the various causes of so common a mishap you may be better prepared to prevent and treat it.

General Etiology of Abortion.—In approaching the consideration of this subject you should bear in mind that the premature expulsion of the foetus may arise from either maternal or ovuline disease or abnormalities, constitutional and local, as well as from extrinsic circumstances, such as a fall, blow, or shock, mental or physical, from immoderate exercise, from coition, from undue compression of the pelvic viscera by corset or dress, and, above all, from displacements or disease of the uterus or its adnexa. Moreover, this abnormal termination of gestation may also occur independently of any recognizable disease, maternal or foetal, or of any accident sufficient to account for its causation from a special constitutional or uterine incapacity for the continuous physiological development of the gravid uterus and its contents. That is to say, in other words, this accident may result from what so far back as the time of Denman was well described as “a habit” of aborting; in such cases it being remarkable, as he observed, that women who are in the habit of miscarrying go on very well to a certain time and then miscarry, not once, but for a number of times, in spite of all the methods that can be contrived and all the medicines that can be given; so that, besides the force of habit, there is sometimes reason to suspect that the uterus is incapable of distending beyond such size before it assumes its disposition to act, and that it cannot be quieted until it has excluded the ovum.

The maternal causes of abortion may be divided into constitutional, local, and accidental. Among the primarily maternal constitutional causes of this occurrence, probably the most important is syphilis, and next pyrexia of every kind, especially the various exanthemata, typhoid fever, and pneumonia, as well as general plethora, and, in a word, any disease, septic or otherwise, by which the blood may be so impaired or vitiated as to be incompatible with the vitality of the foetus, as exemplified

in myxoma and other placental diseases ; whilst among the local and accidental causes of this event must be included all the displacements, especially retroversion and retroflexion, as well as the inflammatory and other diseases to which the gravid as well as the non-gravid uterus and its appendages are liable. In this connection I would particularly direct your attention to the frequent occurrence of abortion in patients who have suffered from obstructive dysmenorrhœa, as that fact is one by no means sufficiently recognized. In a former lecture I observed, and I may here reiterate, that, although some writers assert that impregnation is an effectual cure for obstructive dysmenorrhœa, that statement is utterly fallacious. The cervical canal may be so far narrowed by organic stenosis or from the flexion of a displacement as to occasion great difficulty and pain in menstruation, and nevertheless may possibly permit the ingress of a spermatozoon. Should impregnation follow under these circumstances, I have frequently observed that such patients are especially liable to abort within the first few weeks in repeated pregnancies, at what would have been a menstrual period had conception not occurred, and, instead of being relieved, as is erroneously asserted, the patient's dysmenorrhœal troubles are subsequently but intensified thereby. Cases of this kind are of great practical interest, affording, as I think they do, the most probable explanation of many of the so-called instances of membranous or pseudo-membranous dysmenorrhœa that are so frequently noticed in young married women supposed to be sterile. Under such circumstances, the true source of the symptoms thus misinterpreted is generally an early abortion, the decidua being then expelled either in its entirety or in shreds, whilst the immature embryo itself may possibly be unrecognized in the clotted blood subsequently discharged. This fact is one which I am anxious to again impress upon you, inasmuch as in many instances I have been consulted, as I have before stated, in the case of patients who had been previously treated by the introduction of the uterine sound, hot baths, etc., for supposed dysmenorrhœal symptoms, which in reality were but the evidences of threatened abortion, which might have been averted by a more rational method of treatment. I venture to hope that this repetition of my experience may prevent any member of my class ever falling into such a mistake.

The ovuline or foetal causes of abortion, although of much importance, can be here only briefly referred to. They include all constitutional or local conditions or accidental lesions by which the nutrition and vitality of the foetus or the structural and functional integrity of the ovum may be impaired or destroyed. Some of the former, such as the syphilitic poison, have been already enumerated among the maternal causes of abortion, although, as I have had abundant proof, the ovum may also be tainted by syphilitic infection derived from a father suffering from secondary syphilis and may communicate infection to its mother prior to its own destruction from that cause. In like manner most of the so-called oxytocic agents which may produce miscarriage, such as ergot, savine, strychnine, and other drugs, including quinine, to the action of which this accident is occasionally traceable, must be classed among the maternal as well as the child-destructive causes of abortion, acting, as they may do, not only as poisons to the foetus, but also as stimulants to uterine contraction by which its premature expulsion is effected. Besides these extrinsic causes of abortion, we have to bear in mind the frequency of its occurrence from other causes, arising primarily within the ovum itself, and especially the influence in this way of abnormal conditions of the ovuline membranes or secretions, such as myxoma or hydatidiform degeneration of the chorionic villi, or the hypersecretion or insufficiency of the amniotic fluid; in addition to which must also be here mentioned the no less potent embryotomic effect of placental disease, such as apoplexy and fatty or calcareous degenerations of the placenta, by which that medium of vital intercommunication between the mother and the foetus is rendered incapable of duly fulfilling its functions. To these conditions, however, it would be impossible to refer in any detail within the limits of my present observations, and hence their consideration may be better left to your obstetric teachers.

Having reviewed the principal causes of miscarriage, we have now to consider the symptoms by which its approach is generally preceded, and, secondly, the methods by which this accident may possibly be warded off. These symptoms practically resolve themselves into two, namely, periodically recurrent uterine contractions or pains, and hemorrhagic discharge per vaginam, due to some separation of ovum from uterus, occurring in the early

months of pregnancy, commonly preceded by sudden cessation of morning sickness, and traceable to one or other of the before-mentioned causes of abortion.

Symptoms.—Among the earliest symptoms of approaching abortion, as described in my edition of “The Dublin Practice of Midwifery,” a work which has been more often used than acknowledged by subsequent writers, the most constant are a sense of weight and weakness in the hypogastric and lumbar regions, followed by stitches of pain shooting from the uterus through the lower part of the abdomen and back and down the thighs, together with frequent micturition and tenesmus. Accompanying these symptoms, or immediately succeeding them, there is always more or less discharge of blood from the vagina, consequent on, and in proportion to the extent of, ovuline detachment from the uterus in each case. In many instances the amount of hemorrhage thus occasioned is so excessive as to cause syncope and reduce the patient to a state of extreme debility, and under such circumstances our prognosis as to the chance of preventing a threatened abortion must be very guarded, although by judicious management we may possibly succeed in doing so. In some instances the ovum is discharged with little pain and in a short period; whilst in others the process occupies some days, hemorrhage continuing more or less during the whole time, and not ceasing until the ovum has been completely expelled. This fact must always render us anxious to ascertain when complete expulsion has been effected, as the retention of even the smallest portion of the ovuline structure is not only a source of immediate hemorrhagic danger, but is still more important from the subsequent risk of septicæmia arising therefrom. To obviate this, all discharges and clots should be cautiously preserved for examination. By carefully opening such clots under water we may be enabled to recognize the semi-transparent ovuline sac containing the foetus floating in the amniotic fluid. But in a larger number of instances, especially in abortions at the earlier months of gestation, our best-directed efforts to discover it may be futile.

Preventive Treatment of Abortion.—Under this heading must be included, first, the prophylactic management of the tendency to miscarriage, which obviously must be dependent on the timely recognition and judicious treatment of its special causes in each

case; and, secondly, the methods immediately available for its prevention when actually imminent.

Prophylaxis.—With regard to the management of the tendency to repeated miscarriages in successive pregnancies, or the habit of aborting, referred to in the previous lecture, I may repeat that when, as is too commonly the case, this is connected with a syphilitic taint, and even when such a taint cannot be distinctly recognized in either parent, the most effective method of obviating habitual abortion is the administration to both husband and wife of a mild mercurial course, as, for instance, one-twenty-fourth of a grain of perchloride of mercury given in tincture of bark thrice daily for several weeks, during which marital intercourse should be completely abstained from, and not resumed until both parties have been slightly but unmistakably brought under the characteristic effects of the mercurial course. By this method I have repeatedly been successful in treating cases in which previously abortion had followed abortion in successive pregnancies. In one instance this had occurred no less than sixteen times running, and in others from eight to four times; and in some of these cases the patients nevertheless subsequently gave birth to children at full term. In such instances I would, however, advise you to exercise great caution in your inquiries into the history of the case, and never so much as breathe the word syphilis to your patient. At the same time I would enjoin you under these circumstances to give mercury in the manner I have just described; for by so doing you will be most likely to be successful in the treatment of the majority of cases of habitual abortion. Moreover, I need hardly warn you also never to neglect due investigation into and, if necessary, the rectification of any uterine displacement or other abnormality that may be connected with the cases under consideration.

Treatment of Impending Miscarriage.—In most instances the premonitory symptoms already mentioned—viz., hemorrhagic vaginal discharge and recurrent uterine, lumbar, and hypogastric pain—become so gradually developed as to afford time for the adoption of possibly successful preventive measures. In such cases our primary object is to arrest uterine action and its consequences, and with this view we must rely largely on absolute quiescence of mind and body, confinement to the recumbent position, saline purgatives, light non-stimulating diet, and such medi-

cines as possess a sedative effect and so diminish the reflex or cerebro-nervous as well as vascular excitement generally present in such cases. For these purposes, although a considerable number of newer remedies have been recommended on high authority, I have found none comparable, either as analgesics or for lowering blood-pressure, in such cases, to the oldest of all sedatives,—viz., opium, judiciously administered in an efficient manner and dose, and especially in the form of opiate enemata, as, for instance, thirty or thirty-five drops of laudanum or fifteen or twenty drops of Battley's liquor opii sedativus in a wineglassful of thin starch, which may, if necessary, be repeated within an hour or two. Should the hemorrhagic discharge, however, be so profuse or so continuous as to call for more active interposition, there should be no hesitation in resorting to the most effectual method of repressing this,—namely, the introduction of a well-compressed sponge plug wrung out of terebene, Condyl's fluid, or any other non-irritating antiseptic solution, and sufficiently large when expanded to fill the vagina completely from the os uteri to the vulva. The employment of such a plug, whilst controlling hemorrhage, by no means necessarily implies, as some assert, the consequent stimulation of uterine action and completion of the miscarriage. On the contrary, I have in several cases thus used the sponge tampon to arrest hemorrhage in threatened abortion, and four or five months subsequently have delivered the patient of a living child at full term.

Subsequent Treatment of Abortion.—The subject of actual abortion is one with which I need not here occupy your time, as it belongs to the obstetric teacher's department. But, inasmuch as that accident often comes before us in cases primarily gynæcological, I may at least remind you that the dangers we have then to guard against directly after the premature expulsion of the ovum are, first, the immediate consequences of the resulting hemorrhage; secondly, the subsequent risks of septicæmia from retention and decomposition of clots or ovuline debris; and, thirdly, the occurrence later on of subinvolution and metrorrhagia from the imperfect contraction of the uterus or the retention therein of any portion of the ovuline membranes or placenta. Hence in the treatment of cases in which abortion has actually occurred our primary object should be to insure the efficient con-

traction of the uterus after the expulsion of the fœtus, by the administration of ergot, which, notwithstanding any theoretical objections, is the only reliable oxytocic or remedy of any value in producing uterine contractility, and which should therefore in such instances be freely given in full and effectual doses, either by the mouth or rectum or by deep hypodermic injection, until a safe and permanent uterine contraction is secured. For the second purpose, the uterus after every abortion should be thoroughly flushed out with hot boric solution or with peroxide of hydrogen in ten-volume solution, which should be conjoined with the use of the curette if there be any reason to suspect the retention of any ovuline or placental débris.

Displacements of the Gravid Uterus.—Among the gynæcological causes of abortion just mentioned, probably the most important is the occurrence during early pregnancy of some accidental dislocation of the womb, by which its normal development at that time may be so interfered with as to give rise to the premature expulsion of its contents. Therefore, although in a previous lecture I have fully discussed all the different forms of uterine displacement, I must in this connection again briefly allude to such of them as are of most direct importance in the circumstances now under consideration.

Retroversion of the Gravid Uterus.—In early pregnancy this accident, whilst also of course liable to occur from any pathological weakening or impairment of the ligamentous supports of the womb, as well as from any sudden force or violence from without applied to that organ, such as falls, straining at stool, etc., as under other circumstances, is especially likely to result from direct pressure of the enlarging uterus on the neck of the bladder. In such cases that organ, if thus prevented from completely emptying itself, may become so distended that it gradually forces the fundus uteri downward and backward into the hollow of the sacrum, the cervix being at the same time tilted upward and forward against the symphysis pubis. The symptoms of this occurrence are difficulty in passing water, or even complete retention of urine, with tenesmus and powerless straining to empty the bowels. A sense of weight or fulness and bearing-down pains in the pelvis are also complained of.

Treatment.—The treatment of retroversion must be prompt, as,

if complete, it not only occasions considerable suffering to the patient, but must also certainly eventuate in the premature expulsion of the fœtus. In cases of slight retroversion or retroflexion the displacement may be remedied by emptying the distended bladder with the catheter, supporting the replaced uterus with a roller pessary, and keeping the patient lying on her face for a few days. In complete retroversion this becomes a matter of considerable difficulty. The patient should be placed in the knee-elbow position, the bladder emptied, and the fundus pushed up from the rectum by a couple of fingers of one hand, whilst with the other the cervix is pulled down. A well-bent Hodge's or a roller pessary should be passed up into the posterior cul-de-sac of the vagina, and the supine position rigidly maintained for some time.

Anteversion and Antelexion of the Uterus.—Dr. Graily Hewitt regards antelexion as more common than retroflexion, and Dr. Barnes considers that the normal condition of the uterus in early pregnancy is one of slight anteversion. In this view my own experience coincides, so far at least as regards the usual normal position of the uterus, whether gravid or non-gravid, being one of slight obliquity forward, but at the source. From the same experience I am also convinced that any such extensive anteversion displacements as to require special treatment, or even to constitute a well-marked anteversion or antelexion of the uterus, are very exceptional during pregnancy.

In these rare cases the patient complains of bearing-down pelvic pains, and, on examination, the os uteri will be found in the posterior cul-de-sac of the vagina, looking towards the sacrum, the fundus uteri pressing on the neck of the bladder, and occasioning at first incontinence of urine, which, as the displacement increases, changes to difficulty in micturition or complete retention. In anteversion abortion is said to occur at an earlier period than in retroversion.

Treatment.—The treatment consists in placing the patient on her back, at the same time applying hydrostatic pressure as far as may safely be done by distention of the bladder, supporting the generally pendulous abdomen by a properly-adjusted binder or a well-fitting belt such as that devised by Dr. Duke or else the one which, in accordance with my suggestion, has been made

by Messrs. Corcoran for such cases. When the reposition has been effected, however, the next object is to secure the retention of the replaced uterus *in situ*, for which purpose the external support afforded by the abdominal belt just referred to must be supplemented by the support upward and backward of a suitable and properly-applied Thomas's pessary, or else by a cradle or a ring pessary.

LECTURE XLVI.

ECTOPIC GESTATION.

GENTLEMEN,—Few subjects connected with our branch of medicine have given rise to wider differences of opinion than the etiology and treatment of extra-uterine pregnancy, or, as Dr. Barnes terms it, ectopic gestation. Probably the most commonly prevailing opinion, as stated in a former article of mine, is that this abnormality, which it should be noted occurs more frequently in multiparous patients of mature age, is generally consequent on structural changes in the Fallopian tubes, or salpingitis, by which the transmission of the fertilized ovum through these ducts was impeded. That explanation, although, as I believe, generally applicable to these cases, as far as it goes, has been now considerably modified and improved by the newer light which has been thrown on this condition by the researches of Mr. Lawson Tait, whose views as to its causation may be here quoted.

Etiology.—Premising, therefore, as is obviously the case, that the uterus alone is the seat of normal impregnation, Mr. Tait further observes that “as soon as the ovum is affected by the spermatozoa it adheres to the mucous surface of the uterus; that the function of the ciliated lining of the Fallopian tubes is to prevent spermatozoa entering them and to facilitate the progress of the ovum into the proper nest; further, that the plications and crypts of the uterine mucous membrane lodge and retain the ovum either till it is impregnated or till it dies or is discharged. With such views,” he adds, “it is easy to understand the cause of tubal pregnancy, for we have only to turn to the papers of Arthur Johnstone and Bland Sutton to see that desquamative salpingitis could at once put the mucous lining of the tube into a condition

exactly similar to that of the uterus, and in that condition access of spermatozoa would be possible, retardation of the ovum in the tube would be inevitable, and its immediate adhesion to the tube-wall after impregnation would be as easy and as likely as its occurrence in the uterus. The cause, therefore, of ectopic gestation or tubal pregnancy will be any process or accident which has reduced the Fallopian tube, so far as concerns its internal lining surface, to the same condition as the uterus.”¹

Classification of Ectopic Gestations.—In my article on extra-uterine pregnancy in Quain’s “Dictionary of Medicine,” four varieties of misplaced gestation were referred to,—viz., tubal, ovarian, interstitial, and abdominal (*i.e.*, in the peritoneal cavity and away from the uterus and its appendages), or, as it was formerly termed, ventral pregnancy. This classification may, I think, be still adhered to, although it is not quite in accordance with either of the more recent subdivisions suggested by Mr. Tait or by Dr. Martin, of Berlin, by the former of whom such cases are thus arranged :

“I.—Ovarian, possible but not yet proved.

“II.—Tubal, in free part of tube, is (*a*) contained in tube up to fourteenth week, at or before which time primary rupture occurs, and then progress of the gestation is directed into

<p>(<i>b</i>) Abdominal or intra-peritoneal gestation, uniformly fatal (unless removed by abdominal section), primarily by hemorrhage, secondarily by suppuration of the sac and peritonitis;</p>	<p>(<i>c</i>) Broad-ligament or extra-peritoneal gestation;</p>
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<p>(<i>d</i>) may develop in broad ligament full time and be removed at viable period as living child;</p>	<p>(<i>e</i>) may die absorbed as extra-peritoneal hæmatocele;</p>	<p>(<i>f</i>) may die and the suppurating ovum may be discharged at or near umbilicus, or through bladder, vagina, or intestinal tract;</p>	<p>(<i>g</i>) may remain quiescent as lithopædion;</p>	<p>(<i>h</i>) may come abdominal or intra-peritoneal gestation by secondary rupture.</p>
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¹ Tait, Lectures on Ectopic Gestation and Pelvic Hæmatocele, p. 4.

“III.—Tubo-uterine or interstitial is contained in part of tube embraced by uterine tissue, and, so far as is known, is uniformly fatal by primary intra-peritoneal rupture (as *b*) before fifth month.”¹

At the meeting of the first International Gynæcological Congress at Brussels, in September, 1892, this subject was introduced by Dr. A. Martin in a discussion at which I assisted. As Dr. Martin's conclusions, though differing in some respects from those of Mr. Tait, are also the result of exceptionally large experience, they may be here briefly cited,—viz.: “1. The etiology of extra-uterine pregnancy remains to the present day veiled in the deepest obscurity. Certain hypotheses already advanced only explain isolated cases in a manner which does not defy criticism. 2. Most frequently the ovum is implanted in the tube. Ovarian attachment is less rare than recently supposed. Abdominal insertion of the ovum remains doubtful.”

For my own part, whilst recognizing the importance of abnormal conditions of the Fallopian tube as important factors in the causation of ectopic gestation, the most common seat of which, as I pointed out, is in this duct, I see no reason to question the possibility of a similar occurrence in the ovaries. In proof of this I may refer to a case related by Dr. Dreesen, in which, after a retention of nearly seven years, the encysted foetus was felt as a hard, knobby mass, the size of a four-year-old child's head, in the left side of the abdomen, quite immovable. On internal examination, the entire brim of the pelvis was found filled with a fixed hard mass, and the os uteri was pushed over towards the right pubic bone; much pain was caused in examination by the rectum. On post-mortem examination the gut was found adherent by numerous points to the omentum. The bladder bounded it and was adherent to it in front. The uterus was not greatly enlarged. The mucous membrane looked normal. The left Fallopian tube ran across the wall of the sac. The left ovary could not be discovered. The right tube was found free. The right ovary was also distinct. In the sac were found the remains of the foetus, macerated. The placenta could not be made out.

¹ Op. cit., p. 8.

The inner wall of the sac was covered with a smooth serous membrane. At the point of connection with the rectum there was a fistulous opening.

Symptoms of Ectopic Gestation.—These are obscure and difficult of accurate recognition in all cases, and can be advantageously discussed only by considering their signification in reference to the special period of their occurrence in each instance. In the inception of this condition there is absolutely no possibility of discriminating between it and normal impregnation. Nor is its existence generally capable of detection until, by some deviation from the ordinary course of the first months of pregnancy, or by the occurrence of symptoms of some intercurrent uterine or peri-uterine disease at this time, the necessity for a local examination is indicated. If this be then made, in an instance of tubal or other ectopic gestation, the nature of the case, as a rule, will be evinced by the presence of a well-marked semi-solid retro-uterine tumor in Douglas's space, not due to a retro-uterine displacement or other disease, whilst at the same time the os uteri will be found patulous. If, however, by such an examination the diagnosis has not been established, and should the ectopic gestation cyst not rupture sooner, the misplaced ovum may continue its development without any suspicion of the nature of the case being occasioned for a considerable time, until by its increasing bulk severe and frequently recurrent intra-pelvic pains and pressure-troubles are occasioned, and lead to local examination, by which the condition of the cervix and retro-uterine fulness already referred to are disclosed. Under these circumstances, if the pregnancy be then sufficiently advanced to allow the sounds of the placental bruit and foetal heart to be recognized in a distinctly abnormal situation, there can be no question as to the case being one of ectopic gestation.

Diagnosis.—With regard, however, to the recognition of the earlier stages of ectopic gestation there is, unfortunately, a wide difference between the statements made by some compilers of text-books, on which junior practitioners as well as students oftentimes too implicitly rely for their guidance in such matters, and the results of actual experience and clinical observation. The principal conditions with which extra-uterine or ectopic pregnancy is liable to be confounded are, briefly speaking, the following,—viz.,

normal pregnancy when complicated by ovarian prolapse into Douglas's space, pelvic hæmatocele or abscess, uterine fibroid or fibro-cystic tumors similarly situated, and retro-displacements of the gravid uterus before the fourth month. All these and other possible causes of error may, as we are assured, be distinguished from ectopic gestation, even at a very early period, by due attention to the history of the case, aided by physical investigation, and the non-existence of the special symptoms before described. For my own part, and without questioning the possibility that others may have been able in some instances thus to recognize the primary stage of this condition, I would, as the result of practical experience, venture to controvert the general feasibility of pronouncing any well-grounded opinion regarding the existence of this abnormality in its initial phases.

As a matter of fact, no more difficult question can arise in gynæcological or obstetric practice than the early diagnosis of an ectopic gestation. Nor do I now refer to those utterly impracticable fine distinctions that have been propounded by theorists with regard to the interdifferentiation of variously described forms of ectopic gestation from each other, which have no foundation beyond the imagination of their authors. But—speaking merely of the early detection of any case of this kind, and of its recognition from those other morbid conditions with which, until the nature of the abnormality has been disclosed by the rupture of the misplaced ovum cyst, it may be mistaken—I may repeat that, as a rule, previously to that occurrence its accurate diagnosis is almost if not quite impossible.

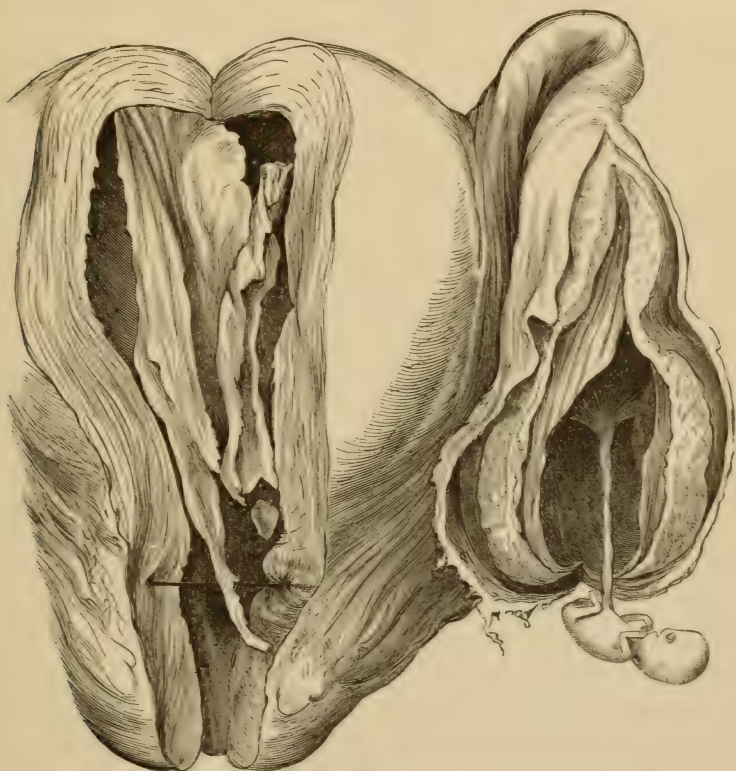
In some cases the diagnostic difficulties referred to are largely due to the fact that many of these uterine, mammary, and other symptoms, by the existence of which normal pregnancy is revealed, also accompany the commencement of abnormally placed gestations, though, of course, with certain modifications, to which attention is seldom attracted at this period. For in these cases it is remarkable that the uterus, as well observed by an old writer, "sympathizes with the imprisoned and impregnated ovum, wherever it may happen to be lodged." Thus, under these circumstances, not only does the uterus become generally enlarged by congestive hypertrophy of its walls, but, moreover, it exhibits, as a rule, those special hypertrophic changes in the endometrium

which, according to Leishman, constitute "the first stage in the formation of the decidua." Functionally, moreover, the sympathetic relations between the uterus and the lost tenant which it was prepared to receive are evinced not only indirectly by the reflex mammary enlargement, the formation of the areola, and the gastric disturbance, morning sickness, etc., consequent on the sympathy between these organs and the hyperæmic uterus, but also more directly by the general suppression of the periodic uterine evacuation, or catamenial flux, in both cases. At the same time, however, irregular and profuse hemorrhagic discharges per vaginam are by no means unfrequent during ectopic gestation. Should the latter happen to progress to the full term of nine months, or generally long before this, as may also occur in ordinary pregnancy, the sympathetic activity of the uterus is again shown by expulsive or contractile pains, which often continue for some hours, and seldom altogether subside till the organized and extra-uterine substance loses its living power and becomes of the nature of a foreign material to the organs by which it is surrounded, after which menstruation again returns regularly. Although many of the symptoms of ordinary pregnancy are common to its ectopic forms, nevertheless, after some time their differentiation may be aided by observing that in the latter cases some irregularities either in the usual order of their sequence or in their intensity will, as Churchill pointed out, probably be noted. Thus, the catamenia may be present or absent, and, if present, either scanty or profuse; and not seldom there is hemorrhage, or a discharge of clots, which have been mistaken for portions of the placenta. The mammary sympathies are excited in most cases, and changes in the areola take place. The patient may or may not suffer from nausea or vomiting, and in some cases at an early period foetal movements have been felt by her. The increase of the abdomen generally differs from that in ordinary pregnancy, being more to one side, and the pain or uneasiness may be limited to the spot where the tumor is felt. M. Chaussier lays great stress upon a sense of weight and uneasiness deeply seated in the pelvis, and occasionally extending to the kidneys.

The General Course of Ectopic Gestations.—In the great majority of instances, the situation of the misplaced ovum being tubal, the distended tube or gestation cyst ultimately, and gener-

ally long before the fourth month, ruptures, and the ovum escapes into the peritoneal cavity, where it commonly perishes; whilst the mother, unless rescued by timely surgical interposition, either then succumbs from the immediate shock and hemorrhage or else may survive to become the subject of consequent pelvic hæmatocele. Dr. Wm. Smyly, the present Master of the Rotunda Hospital, Dublin, thus sums up his experience of ectopic gestations: "I

FIG. 259.



Gestation in left Fallopian tube; the sac ruptured (after R. Barnes).

have seen," he says, "altogether, six cases. They all occurred in patients who had been sterile, or acquired sterility in consequence of pelvic inflammation. They were all tubal, and the tube burst within the first four months, five times into the peritoneal cavity and once into the broad ligament. In all the former cases the blood was encysted, forming a hæmatocele.

None of them bled to death, but in two the blood decomposed, and septic absorption was the cause of death. The third case is most open to criticism. To have evacuated the cyst before the blood became putrid, and to have secured the bleeding vessel, would, very probably, have saved the patient's life, but that would involve operating on all intra-peritoneal hæmatoceles, and at present I am of opinion that they will do better if left alone."¹

Protracted Ectopic Gestation.—In exceptional cases, however, the abnormally situated embryo may maintain its vitality and growth to a period compatible with its living deliverance, or, as more frequently happens, the fœtus, whether it has escaped from the ruptured ectopic gestation cyst or has remained without rupture therein, perishes. In such cases it may subsequently be retained, after an abortive attempt at expulsion, as well shown in a preparation, in the Museum of the Royal College of Surgeons in Ireland, of a tubal pregnancy which had lasted twenty years. In this, as described by Campbell, the placenta and decidua are seen within the tube or sac, and the child, of the ordinary size at full term, is as perfect as if it had been kept in spirits. More frequently, however, in such cases of long intra-peritoneal retention the fœtus is gradually disintegrated, or else undergoes either calcareous or an adipocere-like metamorphosis, by the latter of which it becomes mummified; whilst by the former, or calcareous form of degeneration or incrustation, the retained embryo may become calcified or converted into a lithopædion. In any of these conditions it may possibly, as before observed, be very long retained without any obvious inconvenience to the patient. Of this fact numerous instances are referred to by Churchill as well as by Castle, Blundel, and other older writers, especially Campbell, who gives an account of seventy-five cases of this kind, in which the ectopic gestation was retained "three months in two instances, four months in one, five months in one, nine months in two, fifteen months in three, sixteen months in two, seventeen months in two, eighteen months in seven, one year in five, two years in eight, three years in seven, four years in four, five years in one, six years in two, seven years in three, nine years in one, ten years

¹ On Ectopic Gestation, by W. J. Smyly, M.D., in Transactions Royal Academy of Medicine, Ireland, vol. ix. p. 354. Dublin, 1891.

in three, eleven years in two, thirteen years in one, fourteen years in two, sixteen years in one, twenty-one years in one, twenty-two years in one, twenty-six years in two, twenty-eight years in one, thirty-one years in one, thirty-two years in one, thirty-three years in one, thirty-five years in two, forty-eight years in one, fifty years in one, fifty-two years in one, fifty-five years in one, and fifty-six years in one case." Nevertheless, such cases of the apparently harmless protraction of ectopic gestation must be regarded as "curiosities of medical experience," rather than as furnishing any valid argument against the necessity of operative interference as a rule of practice in the treatment of extra-uterine pregnancy. For, as common sense would suggest and as clinical observation has proved, an ectopic gestation must, generally speaking, constitute an ever-present source of danger, pain, and discomfort to the patient until its removal can be successfully accomplished in the manner obviously indicated,—viz., by abdominal section. In the present connection I may refer to a remarkable instance of this kind, as related by Mason Good (in his "Study of Medicine," vol. v. p. 247), and originally reported many years previously by a long-forgotten practitioner,—Dr. Bell, of Dublin. This case is one which appears to me especially deserving of resuscitation, not only in illustration of the subject under consideration, viz., the course of protracted extra-uterine pregnancy, but also as being, as far as I know, the first instance recorded in which abdominal section was resorted to in the treatment of such cases in these countries, although previously elsewhere performed for the same purpose. In Dr. Bell's case, a young woman, aged twenty-one, after being married fifteen months had the usual signs of pregnancy, and at the expiration of her reckoning was attacked with regular labor-pains, which were very violent for some days, when they gradually left her. But the abdomen still continued to enlarge, while the strength of the patient gradually failed, and she was reduced to a state of extreme emaciation. Eight or nine months from the cessation of her labor-pains, she discharged a considerable quantity of fluid from a small aperture at the navel, along with which were perceived some fleshy fibres and pieces of bone. It was proposed to follow up this indication, and make an opening in the abdomen at this point, large enough to remove the fœtus

supposed to be lodged there. This was accomplished by an incision running two inches above and the same length below the umbilicus, when the bones of two full-grown fœtuses were extracted, for little besides bones at that time remained. No hemorrhage ensued, and the patient recovered her health speedily, and menstruated in about three months. After three months more, she was prevailed upon again to cohabit with her husband, became pregnant, had a natural labor, and bore several children in succession.

In this case it is clear that the sensations of the uterus during the development of the twin ova were those of mere sympathy; as it is also that they ceased to grow, and became dead and irritating substances, after the common term of utero-gestation, or on the cessation of the labor-pains. Another very interesting case of double ectopic gestation, also successfully treated by laparotomy, but differing from that above referred to in the method adopted, being that in accordance with the present practice of modern scientific abdominal surgery, has recently been recorded by my friend Dr. Walter, of Manchester.

Treatment of Ectopic Gestation.—Few subjects more clearly demonstrate the development of modern abdominal surgery, and the changes that have recently taken place in its practice, than the treatment of ectopic pregnancy, which some ten years ago, as stated in my article on this condition in Quain's "Dictionary of Medicine," was generally regarded as being wholly beyond the reach of any curative treatment, whilst at the present day such cases may be successfully dealt with by any well-educated practitioner by a timely and properly effected recourse to the operative measures available under these circumstances. Before referring, however, to the curative methods now employed in the treatment of ectopic pregnancy or of its consequences, I shall first allude to the less heroic, or palliative, means by which these cases may be best managed until the moment has arrived for the interposition of the surgeon by laparotomy or other operative procedure. The expediency of either course is, as it should be hardly necessary to observe, a matter to be determined not only by the period to which the gestation has attained, but also by the position of the ectopic ovum cyst, its condition, and the urgency of the consequences and symptoms that it may give rise to in

each instance. As a rule, however, the palliative, or expectant, course is that called for in the earlier stage of extra-uterine pregnancy. On the other hand, surgical methods are obviously indicated by the threatened or actual occurrence of rupture of the cyst, or in the later months, should the gestation continue to a period compatible with the viability of the child, which, together with the mother, may then possibly be saved by abdominal section.

In this connection I must therefore remind you of what I said in the last lecture with regard to the possible viability of the child in some cases of delivery considerably before the completion of the ordinary term of gestation. This fact has been sufficiently exemplified by several instances of this kind elsewhere recorded by myself, and more recently by others referred to by Dr. Handfield Jones, of London, and by Dr. Eliot, of New York, the latter of whom, whilst recognizing that under peculiar circumstances of development the child may be possibly viable at four months, draws the more general conclusion that "a child is viable at six and a half months."¹

Palliative Treatment of Early Stages of Ectopic Gestation.—In cases such as those under consideration, in which any certain diagnosis is seldom attainable before the occurrence of rupture of the abnormal ovum sac, our treatment until in that way the nature of the case is revealed can at best be empirical, and should therefore, in my opinion, be then merely palliative, or directed by the special symptoms that may predominate in each instance. Therefore, if, as Dr. Leishman observes, the sac be still lodged in the pelvic cavity and can be there recognized, we should endeavor, in the first place, to postpone the impending rupture as far as may be feasible, by absolute rest, and the avoidance of coition and all other possible causes of local irritation or disturbances. Secondly, the pressure-troubles that must be occasioned by the increasing development of an ectopic gestation cyst, in the way of interference with the functions of the rectum and bladder, must be

¹ *Vide* More Madden "On the Early Viability of the Fœtus in Premature Deliveries," *Obstetrical Journal of Great Britain and Ireland*, vol. i. pp. 80-89, May, 1873; also, M. Handfield Jones, M.D., in *Year-Book of Treatment for 1893*, p. 342; and E. Eliot, M.D., in *New York Medical Record*, October, 1891.

dealt with by careful attention to the alvine and renal evacuations. Thirdly, in the way of expectant or palliative treatment, we must resort to the employment of opium and morphia in the form of enemata or suppositories for the relief of the severe periodic local pain, which, as I have already mentioned, so constantly characterizes the initial stage of extra-uterine pregnancy.

Radical Treatment of Ectopic Gestation.—For this purpose three methods have been suggested, of which two are directly foeticidal,—viz., aspiration, or tapping of the ovum cyst, and galvanic puncture. The former of these may serve possibly for diagnosis, the nature of the case being, of course, manifested if on examination the fluid so withdrawn proves amniotic. At the same time I strongly object to it, as the certain effect of the removal of this fluid would be arrest of further progress of the ectopic gestation, consequent on the death of the foetus, the subsequent retention of which in such cases may or may not then occasion further trouble, the former result being far more likely. The second foeticidal method of treatment of the ectopic cyst, by electrolysis, may be similarly disposed of. The third method, or removal of the cyst either by laparotomy or per vaginam, is that which alone deserves any practical consideration.

As this point is one of great importance, I may be permitted to quote the views of a surgeon having the largest experience on record of such cases, viz., Mr. Lawson Tait, who, speaking of cases in which the diagnosis of an extra-uterine pregnancy has been established, says, “If the child is still alive and near the full term, I believe it to be our duty to operate. If the child is dead, the propriety of operating seems to me quite evident. . . . Of late years much discussion had turned on other forms of treatment designed to obviate the necessity for surgical operations, and in the arguments used to support them an altogether new and, I venture to think, a very immoral element has been introduced. It is to the effect that if the child is alive the proper thing is to kill it, in the belief that the infant’s sacrifice is the mother’s safety. I am no theologian, and this is hardly the place for a discussion on morals, but I am bound to say that this seems a most mysterious kind of belief, and it would put legitimate practitioners of medicine on a level with abortion-mongers and reckless craniotomists. . . . If the death of the child did bring the

mother safety, something might be said for the proceeding, but nature kills the child in the vast majority of instances of ectopic gestation, and safety is thereby brought to a mere fraction of the cases, as Parry has proved. Puncturing the ovum cyst with needles, medicated or galvanic, is therefore an immoral and dangerous proceeding, which ought to have professional condemnation. . . . I venture to think that my own experience settles the question in favor of surgical interference at the time of primary rupture. I think there is no appeal against the decision to cut down and tie the bleeding point. No acupuncture, simple or medicated, and no electrolytic charlatanry, will save a woman who has a vessel bleeding into the peritoneal cavity. If the child survives that rupture it has a legal and a moral right to its life, and ought not to be deliberately killed. . . .”

I am the more pleased to be able to cite Mr. Tait's opinions on this point as they coincide entirely with those which I have always maintained and acted on throughout the course of my professional life. Thus, in a work published when I was one of the junior medical officers of the Rotunda Lying-in Hospital, I expressed views very similar to those above quoted, which it required more of the courage of conviction to state at that time, when widely different doctrines were generally held and carried into effect by my seniors in that institution, than it does at the present time, when identical opinions are supported, among others, by so high an authority as that just cited. As, however, the work here referred to has been long out of print, and has been probably never heard of by those whom I am now addressing, I may venture to quote a brief passage that appears to me to bear directly on the subject under consideration, and contains in a nutshell the views with regard to the inviolability of foetal life that I formulated twenty-one years ago, and from which I have not since departed. Referring to Cæsarean section,—*i.e.*, delivery by abdominal section,—I then said,—

“I do not here speak of the morality in such a case of destroying an unborn child that has been possibly extracted entire by the Cæsarean section, with a fair chance of safety to the mother. This point is one on which I have always entertained, and have not hesitated to express, a very strong opinion. I do not believe that we are morally justified in destroying either mother or child for

any purpose.”¹ I may perhaps be also permitted to add that in my directions for the performance of abdominal section, in the cases referred to in that book, I anticipated or recommended some of those details by the development of which modern intra-peritoneal surgery has progressed to its present position.

In the surgical treatment of ectopic gestation, two methods have been employed for the removal of the misplaced gestation cyst, whether it be early in pregnancy, and before the period of its rupture, or at that time for the immediate arrest of hemorrhage; or, again, in those cases in which the patient, having survived that accident, continues to carry the abnormally placed foetus, living or dead, to the full term of pregnancy, or beyond its limits. These two methods are, first, the opening per vaginam of the peritoneal cavity for the purpose referred to, and, secondly, its accomplishment by laparotomy, or abdominal section. The former is advocated under some circumstances by Dr. Herman; whilst the latter is advised in all such cases by Mr. Lawson Tait, with whose views on the expediency of resorting to laparotomy rather than vaginal section in extra-uterine pregnancy I have, in conclusion, to express my own accordance. The abdominal method is, as Tait has proved, the one most facile of accomplishment and most effectual for its object, not only in the earlier months for removal of ectopic ovum and cyst or arrest of hemorrhage consequent on its rupture, but also at a later period for the extraction of the foetus. Moreover, in both cases it is, when properly carried out, far safer for the mother than any of the alternative plans of treatment yet suggested for these purposes.

LECTURE XLVII.

DISEASES OF THE LATER MONTHS OF PREGNANCY.

GENTLEMEN,—It only remains for us in this final lecture to consider some of the principal disorders of pregnancy which in the course of gynæcological no less than in that of obstetric

¹ Maunsell's Dublin Practice of Midwifery, edited by Thos. More Madden, p. 235, London, 1871.

practice you may be liable to encounter among your patients during the later months of gestation.

Pruritus of the Pudendum.—This, at the period referred to, is probably the most frequent, and certainly one of the most distressing, evidences of the hyperæmic and hyperæsthetic condition of the generative system consequent on pregnancy, and consists in an intense irritation or itching, extending over the external genital parts and vulvo-vaginal area,—the labia, clitoris, etc. The itching occurs in paroxysms, which are most troublesome at night, and in aggravated cases wear out the patient, mentally and physically, from loss of rest and from constant irritation. In most cases this may be relieved by frequently washing the pudendum with tar or carbolic soap and hot water, and then using a strong boric-acid lotion at as high a temperature as can be comfortably borne; or else by the local application of a four per cent. solution of cocaine combined with menthol or with peppermint-water. Occasionally the pruritus may be allayed by the local use of a twenty per cent. dusting powder of dermatol. For the same purpose, and especially in hospital practice, where, as before observed, the expense of our remedies must, as far as is consistent with their efficacy, be considered, we commonly direct the parts to be brushed over with a strong thirty-grain solution of nitrate of silver, which oftentimes proves effectual in giving relief in such cases, especially when followed by the employment of some mercurial lotion, such as black or yellow wash. At the same time these topical applications must always be aided by the employment of the various bromides and other nerve-sedatives.

Pudental Hæmatocele.—The occurrence of hemorrhagic effusions into the cellular tissues of the vulva, either from a varicose condition of the vaginal and labial veins ending in rupture of the distended vessels from the increasing pressure to which they are subjected during the later months of pregnancy, or, as it more frequently happens, from some direct injury or violence to the parts, is occasionally observed at that time. Pudental hæmatocele, which, however, most commonly occurs during rather than before labor, and hence need not be dwelt on at any great length in this connection, was first, in Great Britain at least, described by two members of the Dublin school,—namely, by Dr. Rainy in 1774 and by Dr. McBride in 1776. It will suffice here to

refer briefly to the symptoms by which you may recognize this accident. These, as Dr. R. D. Purefoy points out,¹ are the sudden formation of a tumefaction, varying in size from a hen's egg to a child's head, in the labia, attended by excruciating pain, steadily increasing with the formation of the tumor, along with severe straining and pressing. As the distention augments, the vulva may yield to the pressure and burst, discharging blood and clots; the patient may even bleed to death by this external hemorrhage. More frequently the consequences are profound shock, evidenced by pallor, restlessness, syncope, and nausea. If the tumor be small it may disappear altogether by absorption, but when it reaches a large size rupture commonly occurs on its inner aspect, either at the time of its formation or during the three following days. Even after this secondary hemorrhage may ensue, and the cavity be filled anew. With regard to the treatment of pudendal hæmatocele during pregnancy I must refer you to what I have already said on this subject in an earlier lecture on diseases of the labia (*vide* pages 45-47).

Edema of the Lower Extremities.—Anasarca of the feet and legs, due to interruption to the return of the blood by the iliac veins, resulting from pressure of the gravid uterus, is one of the commonest complaints incidental to the later months of pregnancy. In some instances the serous effusion is more general, and not only may affect the thighs and vulva, and especially the labia, but may also be manifest in the abdominal cavity, occasionally giving rise to a serious extent of ascites. In exceptional cases the labia may become so œdematous as to constitute an obstacle to delivery, which must then be facilitated if absolutely necessary, but not otherwise, by puncturing the tumefaction. As a rule, however, in ordinary instances of œdema thus entirely due to the mechanical pressure of the distended uterus, and not complicated or occasioned by renal disease, little, if any, active treatment is called for beyond the use of saline aperients and rest in the recumbent position.

Edema of the Face and Upper Extremities.—This is a much more serious condition in pregnancy than that last referred to,

¹ Purefoy, "On Pudendal Hæmatocele," Transactions Royal Academy of Medicine, Ireland, vol. vi. p. 223.

and one that should always excite the anxious solicitude of the medical attendant in such cases. The importance of this symptom as a prognostic of puerperal convulsions of uræmic origin associated with albuminuria and demanding prompt and judicious treatment for their prevention cannot be too clearly impressed. In all such cases of dropsical effusion during pregnancy, wherever situated, the urine should be daily tested for albumen, and if this be discovered the case should unquestionably be regarded and treated as one of probably impending convulsions. For the prevention of that complication, to the treatment of which we shall again refer, we must rely, for lowering the blood-pressure and relieving local congestion, first, on free purgation by saline cathartics, and, secondly, on dry cupping, or, if it should appear necessary, as I have occasionally found it to be, on leeching, over the kidneys, and we should combine these topical measures with the administration of tincture of perchloride of iron, or some other ferruginous preparation, and a milk dietary.

Hemorrhoids.—At all times women are more subject to this complaint than men, and during pregnancy, owing to the pressure of the gravid uterus on the hemorrhoidal and iliac veins, comparatively few escape either internal or external piles. With regard to treatment I have nothing to add to what was said upward of a century ago by Smellie on this subject,—viz., that “the same method of cure may be administered as that practised at other times, though greater caution must be used.”

Dropsy of the Amnion is met with in some cases of abortion from myxoma or other placental diseases. It also occurs from simple over-secretion of the amniotic fluid, and is then chiefly of interest as the cause of a condition to which the old writers attached great importance,—viz., pendulous belly. The latter was originally regarded by Devantr, who was generally copied though not quoted by subsequent writers down to a comparatively recent date, as the ordinary source of obliquities of the uterus and of tedious labor. Without discussing that question, we may still regard dropsy of the amnion as of some importance, not only from the inconvenience it occasions, which can be palliated only by a suitable abdominal belt, but still more from the probability of its leading to post-partum hemorrhage from inertia of the over-distended uterus. Hence in those cases it is necessary to deviate

from the ordinary rule of midwifery practice by rupturing the membranes, the presentation being natural, as early as possible during labor.

Cramp.—Cramps in the legs, from uterine pressure on the large nerve-trunks at the brim of the pelvis, are common during the last months of pregnancy, and generally come on at night, beginning in the course of the anterior crural nerve and extending down into the calves of the legs and feet. In ordinary cases no treatment is required, unless friction over the seat of pain and some aperient can be so called. When, however, as sometimes happens, the cramps become unusually severe and frequent, I have seen their recurrence prevented by the pressure of a bandage or an elastic stocking.

Embolism.—We occasionally, though fortunately rarely, meet with cases of sudden death during pregnancy which cannot be accounted for by any cardiac or other abnormality save that by which are similarly caused those cases of sudden death which are occasionally observed shortly after parturition, and some instances of which were fully described in a paper of mine on this subject in the *American Journal of Obstetrics*. In the pregnant state, the system being, as Cazeaux observes, in a state closely resembling anæmio-chlorosis, the blood being characterized by a diminution in the number of red corpuscles as well as being overcharged with fibrin, a strong predisposition to the formation of a fibrinous clot or embolus exists, and this is increased by any circumstance that depresses the circulation, such, for instance, as the fainting that frequently attends quickening. Thus, a thrombus may be formed which, by becoming impacted in the pulmonary artery or elsewhere at any subsequent period of gestation, may block the current of the circulation and so cause sudden death.

There are no symptoms by which embolus can be recognized until its presence is discovered after death. Hence the only lesson we can learn from the history of such cases is the necessity of watchfulness during gestation to the prevention of that occurrence by constant attention to the removal as far as possible of its predisposing causes,—viz., hyperfibrination of the blood, on the one hand, and, on the other, any failure in the force of the blood-current, by either of which causes a thrombus might be occasioned. As to the means by which, however, these objects may be ac-

completed,—namely, by attention to the general health, suitable nutrition and hygienic surroundings of the patient, it is doubtful whether we have made any very material advance on the practice advocated by some of the older writers by whom the normal condition of pregnancy was, as we now hold, erroneously regarded as one of hyperæmia or plethora. Thus, just a hundred years ago one of the ablest obstetric writers of that time,—viz., Dr. John Clarke, in his “Essay on the Management of Pregnancy and Labor,” published in 1793, lays down the following directions, which even yet may not be altogether undeserving of consideration. “To guard against this,” he says, “women, during pregnancy, should carefully and industriously avoid all excess of the table, and should confine their diet to such kinds of food as neither over-stimulate during their digestion nor afterwards. Fruits, therefore, vegetables, and a milk diet are particularly proper, with a somewhat sparing use of animal food, strong liquors, and spices. Exercise should be taken; but it should be moderate in its degree, and, if possible, should be in a pure air.”

Eclampsia during Pregnancy.—Lastly, we have in this connection to consider one of the most serious of all the many possible complications of gestation,—viz., eclampsia, to which the pregnant no less than the parturient or puerperal patient is specially liable. These convulsions are *sui generis* in their character, although usually classified as hysterical, epileptic, and apoplectic-form. The first-mentioned, or hysterical, variety, however, being nothing more than a manifestation of hysterical disease accidentally affecting a woman in the early months of pregnancy, requires no special treatment nor any further notice. The so-called epileptiform and apoplectiform convulsions of pregnancy are practically identical in their character, and are influenced in their symptoms by the constitutional state of the patient and the severity of the attack rather than by any essential difference in the nature of the disease.

Symptoms.—In a gynæcological aspect the premonitory symptoms of convulsions are of considerable importance, as by their timely recognition and the adoption of suitable treatment the approaching disease may often be warded off. In the majority of cases eclampsia is preceded by œdema of the upper extremities, face, and eyelids, pains in the lumbar regions, albuminuria, head-

ache, vertigo, or peculiar irritability of temper. In asthenic eclampsia the clonic spasms commence with twitching of the muscles of the eyelids, soon increasing in violence, extending to every part of the body, and recurring at regular intervals.

In anæmic patients, throughout the attack the face may be cool and pale, the eye glistening, and the pupil contracted; but generally, as the convulsions recur more frequently, the impeded respiration induces symptoms of venous congestion, the face becomes livid, the breathing stertorous, the pulse full and laboring, and thus the disease passes from the first into the second stage, or from the so-called epileptiform into the so-called apoplectiform convulsions. In plethoric women, however, the complaint commonly assumes the apoplectic character from its first setting in by a violent convulsion, until eventually the patient falls into a comatose state, the convulsions meanwhile recurring at frequent but irregular intervals. Although after some time and under favorable circumstances the convulsions may cease and the patient slowly regain consciousness, more often the coma, if not averted by timely and appropriate treatment, gradually becomes more profound, the pulse more laboring, the respiration more embarrassed, and the extremities colder, until at length "the last sad scene of all" is closed by a violent and final convulsion. These convulsions may occur at any time of pregnancy, during labor, and within the puerperal period.

Etiology.—The cause of eclampsia is a subject on which innumerable theories have been maintained. The older British obstetricians regarded congestion of the brain as the general cause of the disease, and hence they relied on blood-letting for its cure. Next prevailed the opinion, founded on the views of Dr. Marshall Hall and Van der Kolk, that these convulsions are reflex actions, excited by uterine irritation acting upon the upper part of the spinal cord and medulla oblongata. Our limit of time here does not, however, allow of any detailed consideration of these or many other more recent conjectures on the causation of eclampsia. Until comparatively recently this disease was generally believed to be the result of uræmic blood-poisoning, probably consequent on nephritis, acute or chronic, it having been first shown by Braun and Frerichs, whose views have been confirmed by later writers, that the convulsions of pregnancy are frequently associated with

dropsy marked by albuminuria, and attended by the diminished excretion of urea and uric acid, and the consequent retention of these compounds, or others resulting from their decomposition, in the system. I have examined the urine in six cases of the kind, and in four of them albumen was discovered; but, on the other hand, I have more than once found albumen in the urine of pregnant women who had no subsequent attack of eclampsia. The occasional occurrence of albuminuria during pregnancy has been recently demonstrated by Meyer, who found albumen in the urine in 5.4 per cent. of pregnant women; 19.7 per cent. of all the women referred to (eleven hundred and twenty-four) had premature labor, but this percentage rose to 27.7 per cent. of those who had albuminuria, and of those having albuminuria with casts to 41.2 per cent. Of twelve hundred and thirty-eight women whose urine was examined during labor, 25 per cent. had albuminuria, and in nearly one-half of these there were casts. Such observations, however, by no means alter the fact that in a large proportion of cases the presence of albumen in the urine of a pregnant woman may be regarded as a premonitory symptom of convulsions. That these may be occasioned by uræmic blood-poisoning is exemplified in many diseases, and during pregnancy this condition may, even in cases where no other evidences of nephritis are discoverable, result from the pressure of the gravid uterus mechanically obstructing the renal emulgent vessels, and so interfering with the functions of the kidneys.

Besides renal causes there are, however, other lesions, in some instances, connected with the etiology of the disease. Thus, Dr. Parrish, of Philadelphia, quotes on this point the observations of Pilliet, who has noticed certain hepatic abnormalities, both in cases of jaundice and in those in which it did not appear, in women dying from eclampsia. The history of such lesions may be thus epitomized. A capillary in the vicinity of a given space is dilated and filled with red globules; its transverse anastomoses are also dilated; there is thus formed around this point a series of ampullar dilatations, including a centre with irregular contour. The globules contained in these dilatations are rapidly changed and discolored; at a more advanced stage the included centre undergoes a degeneration involving the hepatic cells, the globules, and the capillaries.

Traube-Rosenstein Theory.—With regard to this theory, which has to some extent replaced that above referred to of Braun and Frerichs, I may here avail myself of Dr. Leishman's excellent *résumé*.¹ As he observes, it has long been admitted that one of the physiological phenomena of pregnancy is hypertrophy of the left side of the heart, and it is not disputed that this again involves an increase of arterial tension. Upon these two facts the theory to which we now refer is mainly based. There is here no question of a poison acting through the blood, but the leading idea is that the increased arterial tension acts directly on the brain. The manner in which this is supposed to operate in the production of eclampsia is, that there is, in the first place, an effusion of serum from the capillaries into the brain tissue, constituting œdema of the brain substance. The serum now acts, after its effusion, and owing to the peculiarity in the conditions of the cerebral circulation, by pressing on the outer wall of the vessels, and thus diminishing their lumen. This, again, is assumed to give rise to anæmia of the brain, which is assumed to be the actual cause of the convulsive phenomena. This theory, interesting as it is in itself, and valuable though it be as a pathological speculation, is as yet far from being accepted as conclusively established.

In this connection it may, moreover, be added that the effect of mental and moral impressions in causing convulsions has been remarked by all obstetricians, and that the fact of its being the patient's first pregnancy has also some influence. Thus, of eight cases that came under my notice, five were primiparæ.

Treatment.—In reference to the convulsions of pregnancy, the old adage, "Prevention is better than cure," should never be lost sight of; and hence, whenever any of the premonitory symptoms already described, especially albuminuria, are observed, we should direct our efforts to the depuration of the blood by dry or, if necessary, wet cupping over the kidneys, as well as by milk diet, the administration of saline purgatives, and diaphoretics. At the same time we must endeavor to allay nervous irritability by sedatives, of which the best are bromide of potassium and belladonna.

During the convulsions precautions to prevent a patient from

¹ A System of Midwifery, by William Leishman, M.D., vol. ii. p. 781, Glasgow, 1888.

biting her tongue or injuring her person in any way should, in the first instance, be attended to. In all cases the bowels should be unloaded by calomel and jalap, or by a drop of croton oil, or by a fetid enema; the head may be shaved and blistered or ice applied, and at the same time sinapisms should be put to the legs. One of the most effectual means of shortening the paroxysms is cold affusion on the head and face. In the asthenic form of eclampsia, however, this remedy should be used cautiously.

In cases of apoplectiform convulsions blood-letting is—notwithstanding the disusage, before referred to, into which this remedy has now fallen—a method, when judiciously and necessarily employed, of undoubted efficacy in subduing the convulsive action. If the patient be plethoric and her pupils be contracted, we should, as a rule, bleed. If, on the contrary, the pupils are dilated, the condition of the brain may be considered as anæmic, and blood-letting will probably be out of the question. The amount of blood that may be taken from a plethoric woman suffering from eclampsia should be measured by the patient's condition and the effect produced, rather than by the quantity abstracted. In hysterical convulsions, if cold affusion does not suffice, the inhalation of chloroform or ether will generally cut short the attack.

But in true puerperal convulsions, in which I have tried chloroform pretty extensively, it requires to be used with great caution, being contra-indicated where either the circulation is depressed or where there is a tendency to apoplectiform symptoms. In suitable cases, however, I have found chloroform serviceable in subduing the convulsions and prolonging the intervals between them. Chloral was first suggested by myself, many years ago, in such cases, but after a further trial was abandoned. Opium was at one time largely prescribed in these cases; so also was belladonna, which was originally introduced into practice by M. Chaussier upward of fifty years ago, and has been recommended by recent writers. As a substitute for blood-letting, the tincture of *veratrum viride* is employed by some American obstetricians, but it has not proved successful in my hands, and the same observation applies to *conium* and *atropine*, which have been also recommended in such cases.

In this connection I may quote from Dr Herman's summary of the recent literature of the therapeutics of eclampsia,

whether during pregnancy or consequent thereon, the following abstract of a paper by Dr. Trimble (in the *American Journal of Obstetrics*) of forty-eight cases of eclampsia, the notes of which were supplied to Dr. Trimble. In seven instances the patients were bled, of whom four recovered and three died. Morphine was used in fourteen, of whom ten recovered and four died. Veratrum was used in twenty-six cases, of which twenty-three recovered and three died. These figures, however, must be read with the qualification that these methods of treatment were hardly ever used alone, chloroform, chloral, bromide, etc., being freely used along with them. Dr. Trimble's conclusion is that if the patient is at all plethoric, veratrum should be given in doses of from fifteen minims to a drachm, and, if required, followed with morphine. If the patient be anæmic it is best to begin with morphine. Bleeding he thinks is rarely necessary, because we have a better agent at command,—viz., veratrum. It is quickly absorbed, "enters the vasa vasorum, and through them impairs the sensibility of the vaso-motor nerves. The blood-vessels thus lose their tenacity and power of contraction." Morphine and whiskey counteract the excessive action of veratrum very certainly and promptly. Dr. Trimble does not, however, think that veratrum is a specific. But with it, morphine, chloral, and potassium bromide, he thinks that nearly all cases that are capable of cure can be relieved.¹

For my own part, however, as the result of somewhat extensive experience in hospital and private obstetric practice, I cannot agree with the conclusions just cited, believing, as I do, that in the actual treatment of eclampsia time is too important to be wasted in experimenting with drugs so uncertain or unreliable in their action as those referred to, especially as we have, in cold affusion, venesection, and the use of chloroform, much more direct and effectual means of arresting the convulsive action in the cases now under consideration. Whilst in the prophylactic treatment of eclampsia during pregnancy we should, in my opinion, rely, first, on the measures already spoken of for the relief of the renal disease of which the convulsions are probably symptomatic; secondly, on the depuration of the uræmic poisoned blood; and

¹ Year-Book of Treatment for 1891, p. 352.

thirdly, on the removal or abatement of all sources of cerebro-spinal irritation, reflex or peripheral. For the latter purpose I have occasionally found the administration of sedatives of the class above mentioned, especially small doses of belladonna, apparently serviceable in lessening what has been described as "the undue mobility of the nervous system" in such cases of tendency to convulsions. Finally, in every instance of eclampsia in the latter months of pregnancy, our primary object should be to deliver the patient as speedily as may be consistent with her safety and the viability of her child.

Gentlemen, in concluding this lecture and my course, I must express my thanks for the attention you have given to my teachings, such as they were, and for the zealous assistance I have always received in my clinical work from my class in this hospital. Whilst, as you have possibly well recognized, I certainly can claim no exemption from a full share of the shortcomings which are almost inevitable in such courses, I would yet presume to hope that these lectures have not been altogether devoid of some practical utility. This, however, is a question that time and experience will soon enable you to decide for yourselves. To that test, and to the consideration of my brethren in the profession of which you are, I trust, destined to become worthy as well as successful members, I therefore submit these results of long gynecological observation and study. Their judgment it is not for me either to anticipate or to deprecate. In any event I shall remain content with the consciousness that, however imperfectly I may have succeeded, I have at least striven, to the best of my limited abilities, to impart to you whatever knowledge I have acquired on the subjects brought under notice.

Finally, in bidding you—as I now do in the best sense of that word—Farewell, I have only to give utterance to my earnest wish that the principles and methods of gynecological treatment which I have endeavored to impress may not only be found useful to you at the present time, but also become fructified and improved in your future practice, and thus hereafter prove still more serviceable in the relief of the diseases peculiar to women.

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